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For the Photographer and Kinematographer

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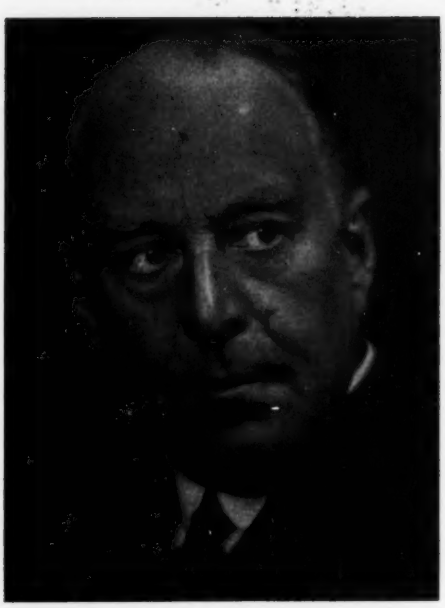
The Royal Photographic Society and Its President

ALEXANDER LEVENTON, A.R.P.S.

To me, as to every lover of photographic art, the Royal Photographic Society of Great Britain has always been a sort of university of photography—its highest and most important institution, the "headquarters", the center around which the photographic world revolves. It was not without a certain amount of thrill, therefore, that I entered the house of "The Royal" at 35 Russell Square in London. I was shown to the reading room on the first floor, and, having about a half-hour before the time I was supposed to meet Mr. H. Blacklock, the Secretary, I gave myself the treat of looking through some twenty or thirty English and foreign photographic magazines, which are always available at the Society's reading room. The same room is also used for monthly one-man shows and similar exhibitions, and some magnificent carbon prints by the late Charles Job were on its walls at the time I was there. Finally, I was met by Mr. Blacklock, who took me up to his office, where we were soon joined by Mr. J. Dudley Johnston, the President.

Mr. J. Dudley Johnston, Hon. F.R.P.S., has been president of the Royal Photographic Society for the years 1923–25 and 1928–30. His extraordinary devotion and love for the art of photography and the Society, his wonderful artistic training, spirit, and achievements, as well as administrative ability, lectures, and journalistic work, make him an international figure in the history of photography.

He is a native of Liverpool, and his early ambitions were to become a painter; but circumstances forced him to start on a commercial career at the age of sixteen. He continued his artistic studies, however, for some years, and it was his growing interest in music that switched him off the painting. By 1890 he had learned enough of the clarinet to play in a local amateur organisation, the Societa Armonica, the oldest amateur organisation of the kind in the Kingdom. Soon afterwards he also became identified with another and more important society—the Liverpool Orchestral Society, and from 1896, for fifteen years he was largely responsible for the artistic control of both organisations. Later, he became also a director of the Liverpool Philharmonic Society. On moving to London in 1912, his active participation in music was severed. His interest in photography began, indirectly, at a very early age, when his parents went to live in a house which had belonged to a photographic amateur, who left behind him his "glass house" and much of his paraphernalia; but he became actively interested only after he had ceased his art studies. He bought his first camera in 1893 to make records of a trip to the Norwegian fjords, and a little later acquired a 4½″ x 6½″ stand camera with which he did a little portraiture. He did not come into contact with other photographers, however, until 1904, when he joined the Liverpool Amateur Photographic Association. In 1905 he made his first exhibition picture, and in 1906 gained his first award with a gum print, "Liverpool—an Impression"—at the Northern Exhibition. In 1907 he was elected a member of the Limned Ring, the body which ran the Salon of which the present Salon is the successor. In 1909–10–11 he was president of the Liverpool Society, but at the end



J. DUDLEY JOHNSTON, HON. F.R.P.S.
ALEXANDER LEVENTON, A.R.P.S.

of these years he had to move to London for business purposes. At that time he was kept so busy in commerce that pictorial work became almost impossible, and after the "Somerset House" of 1913 he did not make another print until the "Snow Roofs" of 1923. He has been active in lecturing and lantern-slide making, however, and during the war got drawn more and more into touch with the Royal Photographic Society, of which he had been a member since 1906; and in 1916 he was appointed a member of the Pictorial Selection Committee, on which he has served continuously for fourteen years, which constitutes a record in the Society's history. A little later he was elected to the Council, then became vice-president in 1922 and president in 1923.

Mr. Johnston's earliest attempts at picture-making were combination prints built up from several negatives, of which "In Normandy", dating from 1905, is characteristic. Soon, however, he came to the conclusion that this method did not produce the best results either from the artistic or from the photographic point of view, and that the true function of photography as a graphic medium was the recording of transient effects of beauty, light, and atmosphere. The need for some method of control has made him take up the gum and oil processes, in both of which many of his exhibition prints of that time were produced. It was, however, in the combination of gum and platinum that he found his ideal method both for quality and control. The "Nocturne—Venice", accompanying this article, is probably the best-known of his gum-platinum prints. The original is a large silvery-blue print of a gorgeous quality, which naturally cannot be duplicated by any of the reproduction methods. Mr. Johnston makes no pretense that this photograph was made by moonlight. But he believes with Mr. Tilney that the final result is the essential thing—not how you get it—so long as your knowledge and skill suffice to produce an impression of naturalistic truth. The essentials for a successful pictorial photographer, therefore, are, in his opinion, first, a training in art principles, and then the mastery of technique. "I am not a 'purist' ", writes Mr. Johnston in his letter to me. "I am not opposed to handwork, combination printing, or anything of the sort; but I do object to their misuse by

H. BLACKLOCK, ESQ., SECRETARY
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those who have not the artistic knowledge and technical mastery to handle them properly, so as to retain the photographic character of the result. I believe that photography can do certain things supremely well and that it should be an aim to use these characteristics to the full."

The first print of "Snow in the City" was made in the oil-pigment process and was exhibited at the Salon in 1908. It was purchased by Harold Holcroft and is now in the Society's permanent collection. The reproduction accompanying this article was made from the original gum-platinum print made in 1910. The "Corfe Castle" is another gum-platinum print of the same year, and the "Gondolas", dated 1927, is a chloro-bromide of an extraordinary brilliancy, richness, and beauty of tone.

Perhaps in no other way have Mr. Johnston's love and enthusiasm for photography and the Society shown themselves better than in his tremendous work for the Society's Permanent Collection. At the time I visited The Royal, I was not aware of how largely he was responsible for this collection, though I could feel that he was showing me something in which he was especially interested and of which particularly proud. His presidential address, delivered on October 21, 1930, and entitled "The Story of the Permanent Collection", was printed in the December, 1930, issue of *The Photographic Journal*, and from this address most of the following lines are quoted. "At the time I came to London," says Mr. Johnston, "there existed a small collection of framed prints which were hung about the house or were buried amidst lumber and the relics of past exhibitions in the rooms at the top of the house. As a case in point, I may mention one of Essenhigh Corke's portraits which I found in 1924. It appeared to be an exhibition print awaiting return, but as Essenhigh Corke was then no longer alive, I took it for the Permanent Collection. Now I discover that it had actually been presented to the Society six years previously, but never even taken out of its wrapping. When I was elected president in 1923, I chose for the subject of my first presidential address the 'Development of Pictorial Photography', and naturally turned to the Society's collection for my material. I soon realised how inadequate this was, how many gaps there were, and how necessary it was that something should be done, and done quickly, to secure what still remained of the outstanding achievements of the past ere it was too late. I got the Council to appoint me Curator of Prints and, armed with this official status, I set myself to beg, borrow, and, if necessary, annex whatever I could find that ought to be included in the collection, and with so much success that in the past seven years there have been added nearly a thousand pictures, framed and unframed, ranging over the whole period

STAIRCASE AT 35 RUSSELL SQUARE

PART OF R. P. S. LIBRARY

XUM

MANTELPIECE IN R. P. S. ROOMS

from the work of Niepce in 1826 to the present time, and the whole of this has not cost the Society a penny beyond some trifling amounts for railway carriage, etc. And now we may fairly claim that the Society possess a collection which is unrivaled."

One of Mr. Johnston's first successes in his work for the collection was in connection with H. P. Robinson's work. It was presented by Mr. Robinson's son, and contained not only his father's most important pictures, but also three photographs by Niepce, which are probably the oldest examples of photography in existence, dating back a dozen years before Daguerre and Fox Talbot announced their inventions to a startled world. Of Mrs. Cameron's work the Society possesses a unique collection of about 170 examples. Within the last two years, two gifts of very great value enriched the Society by over 600 prints, of which Mr. Johnston can justly be proud as being responsible. They are the Holcroft Collection and the Coburn Collection. The latter contains 112 prints by American workers, 90 prints by Mrs. Cameron, and 64 carbon reproductions from D. O. Mill's negatives.

The story of the Permanent Collection would not be complete without mentioning the benefaction of the late Stephen Tyng, formerly chairman of the Print Committee of the New York Camera Club. He presented the Society with a sum of money to be held as a trust, the interest to be expended on the purchase of outstanding examples of photographic art for the Society's collection. An inherent and unique feature of the scheme is that the pictures are to be purchased in duplicate in order that one copy shall go to an American institution to build up a collection in parallel with that there.

It is almost impossible in the case of a collection of such volume, quality, and significance to single out any particular prints as being the most outstanding. There is, however, one set of prints which made upon me an unforgettable impression, and of which I cannot help saying a few words. They are the work of David Octavius Hill. A prominent painter of his time, he took up photography in 1843 and gave it up again in 1848. Within the short period of five years he produced a great number of portraits which were supposed to help him merely as studies for an enormous church painting. To produce portraits which almost one hundred years later are shown as "of great historical value" is outstanding; but to produce portraits which could occupy a prominent place at any of our present-day salons, at the time when exposures ran into many minutes in bright sunlight, is nothing short of miraculous. Their masterly composition, lighting, modeling, depth, posing, and above all the intensity of characterisation of his sitters' personalities, have hardly been surpassed by any photographer having at his

A MEETING ROOM AT THE R. P. S.

SNOW IN THE CITY—BIRMINGHAM
J. DUDLEY JOHNSTON, HON. F.R.P.S.

disposal the present-day perfection of equipment and material, and can only be compared to the greatest masters of painting. A very complete biography of D. O. Hill, with eighty beautiful half-tone reproductions of his works, has been published by the German edition Insel-Verlag in Leipzig, and I highly recommend this book to all lovers of the photographic art of portraiture.

The Society's collection of historical photographic apparatus is exhibited partly in the Science Museum, South Kensington, and partly in the rooms reserved for the purpose in the Society's house. Such things as the Hurter and Driffield experimental apparatus for the determination of the speed of plates, the lens used by D. O. Hill, the lens used by Mrs. J. M. Cameron, the first stereoscopic camera, invented by J. B. Dancer, the camera used by Scott Archer, the inventor of the Collodion Process, the experimental apparatus of Fox Talbot, the distinguished scientist to whose researches the practice of photography as it is understood today is entirely due, early darkroom apparatus, cameras, exposure-meters, shutters, etc., are all represented and beautifully displayed in the Society's Museum.

There are over 6,000 volumes in the Society's Library, and it is believed to be the most representative collection of books on photographic subjects in existence, containing practically everything ever written on photography in all languages. On the first

GONDOLAS J. DUDLEY JOHNSTON, HON. F.R.P.S.

floor of the house there is a beautifully equipped meeting and lecture room, with a seating capacity of about 200. Then there are, of course, perfectly fitted darkrooms, working rooms, enlarging rooms, and a studio with an elaborate installation of Hewittic Mercury Vapor lights.

The very active Kinematograph Group has its own workroom equipped with projectors, title-maker, reminders, developing tanks, etc. There is also a Scientific and Technical Group, publishing the quarterly *Journal of Abstracts;* the Pictorial Group, which is responsible for lectures at the Society's regular Tuesday meetings, and which is doing so much valuable work in fostering the artistic principles of pictorial photography; and, finally, the recently organised Color Group.

The Society's official organ is the *Photographic Journal*, published monthly and devoted to both scientific and artistic aspects of photography. It is probably the most important photographic publication of today.

The Royal Photographic Society's Annual International Exhibition, devoted to pictorial work and to technical, scientific, and commercial photography, is too well known to need any special mention. It is undoubtedly the greatest annual event in the photographic world.

[In connection with Mr. Leventon's reference to the Stephen Tyng Award, it is of interest to record that in the July 31, 1929, PHOTO-ERA competition, devoted to Pictures of Children, he entered his now famous "Portrait of a Russian Boy". It received First Prize in the competition and was reproduced on the front cover of the October, 1929, issue of PHOTO-ERA MAGAZINE. It was later hung in many of the leading salons of the world and often reproduced. Finally, it received the Stephen Tyng Award and was added to the Permanent Collection of the Royal Photographic Society. It is also of interest to note that Mr. Leventon is the first American winner of this coveted award. Incidentally, since preparing this article, Mr. Leventon has been made an Associate of the Royal Photographic Society, and we take especial pleasure in adding the letters A.R.P.S. to his name as author of this interesting article.—EDITOR.]

CORFE CASTLE — J. DUDLEY JOHNSTON, HON. F.R.P.S.

Twelve Hours of Old Spain

W. E. BARR

LIKE a slowly rising curtain on a stage setting, a blanket of fog, vanquished by the rays of an early morning sun, lifted, and there was Spain!—just a hazy purple coastline and a scene that set our hearts beating faster, for it was our first view of land since we had sailed from New York six days before.

A score or more of the less blasé passengers had risen at an early hour to avail themselves of this pleasure, only to discover that the liner was shrouded with a dense fog. She was proceeding slowly, blaring the ear-splitting foghorn at regular one-minute periods. The group stood on "A" deck immediately under the bridge, and it was here, after forty-five minutes of watchful waiting, that they were rewarded by a great yellowish sunburst and the first sight of land.

The first welcome came from men in tiny fishing boats that bobbed up and down on the waves, and a flock of sea gulls putting on an exhibition of diving, looping, and banking that would rival the aërial antics of a well-trained squadron of airmen.

It was not long before the ship was within the harbor of Vigo, which, by the way, is one of the best natural harbors in the world. Low mountains drenched in a bluish haze rise from the water's edge. On our port side lay the gray hulks of four Spanish men-of-war, one of which was the flagship of the squadron and carried an array of flags near her bow. A few weather-beaten freighters were anchored here and there, their presence magnifying the size and luxuriousness of the "France" in this picturesque harbor, which is rarely visited by trans-Atlantic liners.

"Starboard for debarkation—starboard for debarkation", came a singsong cry from a a steward.

On starboard side we got the first good view of Vigo. From the boat, the town—a typical Spanish fishing town—appeared to be a mass of small tiled-roofed houses clinging to the side of a hill which was crowned by the walls of a Spanish fort built several hundred years ago, and even today housing a force of men and howitzers.

The ship vibrated as anchor was dropped. Once it was known just where the ship was

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MAKING MOVIES IN VIGO W. E. BARR

to lie, a swarm of leaky-looking craft came out carrying men and women. Alongside, they displayed fruit and masses of trinkets, and shouted in their Latin tongue to the passengers, who stood by the rail enjoying the novel scene to the utmost.

The tender to which we were assigned to go ashore came alongside, and with our cameras we got aboard. A few minutes later we stepped ashore.

What could be more thoroughly refreshing than to suddenly find yourself in this simple and colorful Spanish seaport, affording such contrast to vivid memories of the unmerciful rush and crush of New York and her millions of dollar-seekers! Such a distinct transition was an intensely interesting introduction to travel abroad and certainly one that served to whet the appetite for more travel delicacies.

It was the consensus of opinion among the passengers that the first impression of Vigo is the absolute cleanliness of the town. The cobblestone streets and sidewalks—which are found only in the business section—are remarkably clean, and the white buildings heighten the effect of airiness.

We did not confine much time to the main street, but strolled lazily up and down zigzagging byways hardly wide enough to accommodate a burro and cart. Two- and three-story houses of stucco and tile construction wall in these narrow passageways. The characteristic balconies are there, and the street-level entrances are often quite attractive. This is the poorer section, and less clean; however, this condition seemed a bit paradoxical, for, look where you might, you would see leathery-skinned, squatty women bending over the washtubs, and from balcony to balcony were long lines of clothes—the family wash just hung out to dry.

The visit happened to be paid on the first day of May. It was a gala day in Vigo, for in Europe May Day means more than it does in America. Then, too, the "France" had unloaded her load of more than six hundred Americans who, with the exception of the writer, had plenty of money to spend. And, as for my companion and I, we were beginning to believe that we had plenty of pesetas before the day was over; for if we were told once we were told a hundred times by natives trying to sell us things, "Si, si, Señor. Usted habla muchas." To which we would always answer, "No habla Español", and pass on laughing.

It was a bit of good fortune to be in Vigo

STREET-SCENE IN VIGO W. E. BARR

on this day. To celebrate the day in honor of May Day and the visit of the liner "France" and her passengers, an old-time public get-together, known in Spain as a fiesta, was held. This public party reflected many highly interesting customs of the Spanish people and daubed a bit of color on the day that delighted the Americans and incidentally lent to the completion of a perfect picture of old Spain.

The fiesta was held in a pretty little park a short distance from the center of the town. We rode out on one of the dinky tram cars jammed with men and women the most of whom were obviously very poor, but who evidently were not concerned with personal finances, for they all laughed and talked in their customary vociferous fashion as the tram rumbled through the streets, the motorman continuously clanging the funny bell.

The car came to a jerky halt, and we approached the park by climbing a long flight of stone steps, flanked by palm trees. As we approached more closely, the familiar strains of "Cavalleria Rusticana" prepared us for the scene that we saw at the top of the stairway. Here was a bit of storybook Spain.

A small clearing, surrounded by orange trees, was filled with many people—real types—some apparently just up from the fishing wharves, and others who were neatly dressed. All sipped wine or beer slowly and jabbered Spanish, gesticulating wildly, and ever so often bursting into violent laughter. Just beyond this yard or garden was another, a little larger and with a hard, sand floor. Here were the dancers—boys and girls from the town below. The music was an alien sound to our ears, and the tempo was interpreted by the dancers with a sort of cross between a foxtrot and a tango. Whatever it was, they were enjoying it immensely, but hardly any more than we did as we sat at our tables being Spaniards while in Spain.

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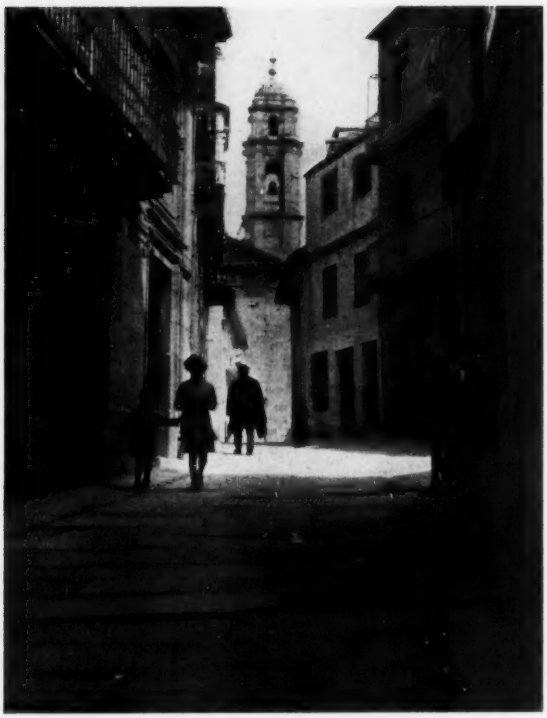
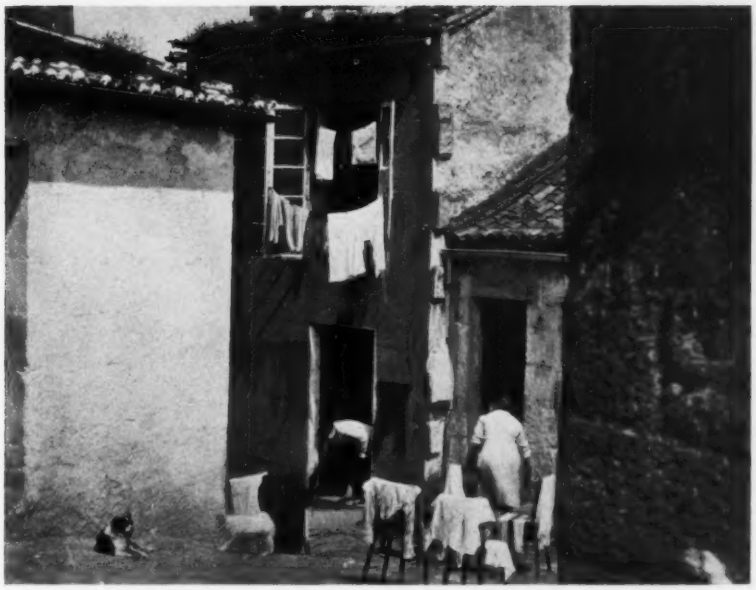


ZIGZAG BYWAYS, VIGO W. E. BARR

Spanish is the ideal language for the tall officer with his shiny Napoleonic hat, or the shapeless brown-faced señora balancing a great mass of greens or bread and live fish on her head. It is a language especially designed for the vociferous, voluble, excitable people who use it. And how they use it! Two washerwomen—bending over their task—pausing to illustrate their perfect deluge of talk with a few histrionic gestures; a peanut vendor with his peripatetic shop, a cart built like a miniature locomotive, driving away the swarms of small Spaniards who were besieging his place of business on the town square—a tall mustachioed señor with his rather fat señora sitting at a small table in the street café—all these would find it impossible to express their volcanic selves in so prosaic a language as our cold Nordic tongue.

And the sidewalk café—what an institution! How utterly unfitting it would be for the rush and bustle of the average American city life! Perhaps our impatient temperament explains the failure of the few attempts we have seen at home to institute the street café idea.

We walked down the long quay to a terminal point where the quaint little fishing boats unloaded their live cargo. Some of the boats were painted blue, with orange hatch covers. On others the cabin roofs were brilliant scarlet and the hulls black. These people have a gift—a perfect flair—for the picturesque in every expression of themselves! We found it here—in their boats, their means of livelihood. The Spaniards take advantage of every opportunity for self-expression. Their work to them is a means toward an end, and merely that. There is no self-consciousness in their treatment of their entire economic problem. And the result is truly delightful to the foreigner, especially the American who is unaccustomed to frivolity and jovial spirit in his work.



WASH DAY IN VIGO W. E. BARR

Here at the quay terminal came little boats, loaded with fine large sardines, some eight or ten inches long. They were destined for one or the other of the forty-eight sardine canneries that are scattered along the coast north and south of Vigo. Two men stood in each boat. One dipped large pans full of salt water over the side into compartments holding the jumpy little creatures. The other dipped out baskets of writhing, squirming fish and passed them to the next man, who in turn handed them to a third—a sort of bucket brigade which ultimately ended in the large flat baskets—fully four feet in diameter—which, when they were filled, were lifted by the barefooted señoras to their heads and borne to the tiny railway cars which stood awaiting their load.

What trains and street cars and automobiles—all in miniature! So small are most of the automobiles that when we saw a lean, lanky chap, superbly continental in his afternoon clothes, ascot tie, and cane, step into one of them, we were hard put to keep a straight face as we passed his car. But withal, these appurtenances of progress, such as the tiny automobiles, street cars and narrow-gauge trains, afford interesting contrasts in their generally quaint settings.

Grover Whalen, with all his knowledge of traffic manipulation and organising ability, would undoubtedly be completely swamped with conditions in the public square of Vigo. Automobiles are outnumbered considerably by bicycles, and all of these are equipped with a loud, jingling bell. Apparently half the job of bicycling lies in the continual use of these bells. The automobiles too, are noisy fellows, with their unceasing tooting of rubber-bulb horns. These tiny cars, much smaller than a Ford, literally whizz through the streets. No parking laws, no restrictions in passing street cars or fellow drivers, no red lights to give the pedestrian a chance to cross with any degree of safety. In short, there is no semblance of traffic regulations as we know them in America.

New York—Vigo—certainly from the sublime to the ridiculous, figuratively speaking, and an experience that offers the opportunity to enjoy strange contrasts of ultra-modern life with those far down—or perhaps up—the scale contrasts that provide a series of pleasurable mental shocks.

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The Photographic Adventures of Bert and Ray

XXV—The Boys Try Pinhole Photography

NEIL WAYNE NORTHEY

"WHERE did you get that material?" asked Ray, as Bert laid a six-inch square piece of thin metal on the workroom table. "I bought it at the garage", replied Bert. "It's the stuff they use for making shims for bearings. There are several different thicknesses of it, but I think that weight will be about right for making pinholes."

"I've been looking all around for something that I thought would be good, and here you drop in with just the thing, except that it will have to be blackened after the pinholes are made."

"That's easy," said Bert. "All we have to do is smoke them a little with burning sulphur. Or if we want a black that will not rub off so easily, one of the mechanics said to clean the brass thoroughly and put it for a few moments in a solution made of copper nitrate 600 grains in 3 ounces of water, and after removing the brass he said to heat it."

"Well, let's get busy and make our pinholes, so that we will be ready to try them when the sun gets up a little higher", said Ray. "That's one disadvantage of pinholes—they lack speed. I hope there isn't any wind today, for that would make it impossible to try some of the things I want to."

"Yes, I know that pinholes require a long exposure, and it's probably a little difficult to compose a picture on account of the image being so dim, and some would object to the diffusion; but even at that, they have some advantages over a lens. For one thing the image is always in focus, regardless of how far it is from the camera or how far the pinhole is from the plate. That means great depth of field, and it is sometimes handy to be able to make a picture in which everything within a few inches to infinity is in focus."

"Yeh, it is quite an advantage sometimes to have everything at every distance in focus", said Ray, "and to have an unlimited wide angle of view when one wants it without distortion; and to have the image strictly rectilinear when straight lines are in the scene, such as when photographing buildings; and to be able to increase the size of the image of distant objects by merely extending the bellows, seeing that the pinhole can be used at any focal length that is wanted. And so far as I am concerned, a little diffusion is not at all objectionable—helps the appearance of some subjects, in fact."

"I believe I'll make three different sizes of holes", said Bert. "If I am photographing something like an outdoor scene with not much fine detail in it, so that sharp definition is not necessary, I can use the largest pinhole and not have to give so long exposure if there is danger of the trees and other things being moved by the breeze. If I want finer definition and can give plenty of time for the exposure, I can use a small pinhole."

"That's a good suggestion", said Ray. "I think I'll make one holder to fit my camera front, and then make all of the pinholes on one strip to fit the holder, so that I can slide any one into position that is wanted."

"Pious idea", said Bert. "And while we are at it, let's make one hole about the size of a nail. We can use it for focusing. Even though the image is decidedly blurred, it will at least enable us to see what we are aiming at, and, after the camera is set, we can slide the pinhole into position."

"I know another way to tell how much is in the picture", said Ray.

"How's that?"

"Just turn the camera around on the tripod and look through the pinhole. Everything framed in the back as you look out through it would appear in the picture when the camera was reversed again, if you were careful to sight along the side of the camera and see that it was turned exactly the same each time."

"Or we could place a pin on the top of the camera exactly over each end of the groundglass and another on the front over the pinhole, and tie a rubber band from each of the back pins to the front. Then no matter how far out the front was racked, the rubber bands would stretch, and by sighting first along one and then the other we could see just what field of view was included.

Of course, the boys were busy with the construction of the pinholes while this discus-

sion was going on, and perhaps a peek at what they were doing would be interesting.

First, each made a holder for the pinholes, which fit over the camera front after the shutter with lens had been removed. The holder was merely a block of wood with a a large hole bored in the center, and with a slot built on its front by tacking strips across it which formed a track in which the pinhole carrier could slide. The pinhole carrier itself was a thin strip of hard wood, with four holes bored in it at intervals of an inch where the metal pinholes were to be placed.

Three needles were used for making the pinholes, sizes 8, 10, and 12, the No. 12 being the smallest. First, the metal was placed upon a block of hard wood and barely pierced by pressing a needle point against it. This formed a slight bulge on the bottom side, which was carefully removed by rubbing against a very fine oil stone. Again the needle was pushed in a way, and again the resulting bur was ground off on the stone, continuing the operation until one of the needles would barely pass through the hole, after which the other holes were made in the same way with different size needles. When finished, each pinhole was cut out and, after blackening, it was glued over an opening in the sliding carrier.

Each pinhole was examined under a magnifying glass to make sure the inside of the hole was smooth, clean, and perfectly round, for any imperfection would have destroyed its definition. Another thing that was watched was that the metal was made thinner than the diameter of the holes. That is, the thinness of the metal around each hole was less than the diameter of the hole itself, so that the edge of the hole would not cut off part of the view if an extreme wide angle were to be photographed. This can be better understood by boring a small hole through a thin board and the same size of hole through a 2-inch plank and looking through each in turn at a distance of two or three inches from the eye, noting how much more view may be seen through the hole in the thin board than the one in the plank.

At last the pinholes were finished and the boys were ready to give them a trial.

"How are we going to tell how much exposure to give when we don't know their F/value?" asked Bert.

"I'm sure I don't know", replied Ray. "We have no way of measuring their diameter, and, even if we did, it would be rather small figures—or should I say big?—dividing them into the focal distance they were used each time in order to learn the stop number."

"Of course, we could lay enough of each size of needles side by side to make an inch", said Bert. "Say it took fifty of a certain size to make an inch, then we would know *that* one was one-fiftieth of an inch in diameter, which we could divide into the focal distance at which we were using it and obtain the F/value."

"That might be all right, but suppose we used the same pinhole first at three inches from the plate and the next time eight inches away. Every time we changed the focal distance, we would have to figure a new F/value."

"We could figure them all before we started out, and make a table of them to carry with us", suggested Bert.

"Yeh, but that is only half the figuring which would be necessary. Suppose you knew the F/value. You would still have to stop and figure out how it compared with a certain lens stop before you could calculate the exposure."

"That's right", agreed Bert. "Tell you what I think I'll do. I think I'll establish a *comparative* stop value for each pinhole at a given focal distance. Say I take the same focal distance for the pinholes as the focal length of my lens as a basis from which to work. First I'll make an exposure with the lens as nearly correct as I can with the help of my new Bewi exposure meter, say at F/8. Next using the pinhole at the same focal distance as my lens, which with my Kawee would be 5¼ inches, I'll expose a plate by quarters, giving the first quarter one-half minute, the next one minute, the next two minutes, and the last four minutes. Then I'll develop both plates together in the same solution for the same length of time, and after they are fixed and washed I'll make a print from each under exactly the same conditions of exposure, paper, and development. When they are finished, I'll see which of the pinhole exposures matches the one at F/8.

"Suppose the F/8 exposure was given 1/50-second, and I find that the one-minute pinhole exposure gave the same density. Let's see, 60 seconds in a minute multiplied by 1/50 —that's 3,000 times more exposure with the pinhole than with the lens at F/8. Now, if the pinhole were always to be used at the same focal distance, all I would have to do to

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get the correct exposure would be to take a meter reading at F/8 and multiply it by 3,000. But suppose I want a wider view, and to get it I must use the pinhole at three inches instead of 5¼ inches. First I would find the correct exposure for the pinhole at the established focal length of 5¼ inches; then I would square 5¼ and the new focal length of 3, which would give me 30.25 and 9, showing that, I would need to give the same amount of time as 9 is to 30.25, or a little more than one-third as much.

"In other words, after establishing an arbitrary focal distance as a basis from which to work, exposures at various other distances would be in proportion to the square of their distances, which I can easily work out and write on the pinhole slide for future use, so that I shall not have to do it over each time."

"That gives me an idea how to determine the *relative* aperture of a pinhole without actually measuring it", said Ray. "Suppose, as you say, you find that a certain pinhole requires 3,000 times as much exposure for a given result as your lens does at F/8. That means that it passes just 1/3000 as much light. And as apertures pass a volume of light in direct ratio to the square of their diameters, or the square of their F/numbers, whichever you prefer, it should be easy enough to find the approximate diameter of the pinhole and give it a relative F/number by comparing its exposure time with the known F/value and exposure time of the lens.

"Let's see—suppose we figure the factors for the lens first. First we divide the focal length, which is 5.25 inches, by the F/-number, which is F/8. That gives us .656, keeping but three figures, as the relative diameter of the lens. Now we square .656, which gives us .430. And just to make it complete we'll square the F/number, 8 x 8= 64. Let's write it all in a row, so that it will be easy to refer to, thus:

Focal length of lens	5.25 inches
F/number used	8
Square of F/number	64
Diameter of aperture at F/8	.656 inch
Aperture diameter squared	.430
Exposure (assumed to be)	1/50 second

"Now, if the pinhole requires, say, 60 seconds, or 3,000 times as much as the lens at F/8, its diameter squared must be 1/3000 of the square of the lens aperture. In other words, it would be .430 divided by 3,000, or .000143, and the diameter of the pinhole would be the square root of that. Let's see—that's approximately .012 of an inch. Next, if we want to establish a relative F/number, we can divide the applied focus of 5.25 inches by .012, which gives us F/437.5."

"Let's write it all together, as we did with the lens, and see how it looks", suggested Bert.

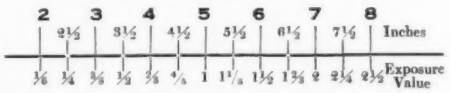
"All right", agreed Ray, and here is what he wrote:

Applied focus	5¼ inches
F/number (relative)	437.5
Square of F/number	191,406
Diameter of pinhole	.012 inch
Pinhole diameter squared	.000143 inch
Exposure	60 seconds

"Now, if we compare the F/number of the lens squared with the F/number of the pinhole squared, that is 64 and 191,406, and if we compare the squares of the diameters of each, that is .430 and .000144, we find that in each case the pinhole is in a ratio to the lens of approximately 3,000, as near as we can figure it without carrying too many figures."

"Well, that's interesting", said Bert. "But I think I'll just establish a comparative time value by trial, as I suggested first, and then all I need to do after that is found is to take a reading with the Bewi to learn the correct exposure at F/8, multiply it by 3,000 or whatever I find the difference to be, and then consult my table of comparative focal distances, which I will carry. The fact is, I believe I'll make a measuring stick, which can be used to find out the distance between the pinhole and the groundglass, and mark on it the comparative time-value at each inch and half-inch. I guess I'll make it now, so that I can take it along for a try-out."

Within five minutes, Bert had done the necessary figuring and had made a rule, which showed, beside the inch and half-inch marks, the comparative exposure value, using the basic focus of 5 inches as zero. When his combination time and measuring scale was finished it looked like this:



"Here it is," said Bert, as he held it up for Ray's inspection. "Using 5 inches as the basis for figuring the known exposure—I

used 5 instead of 5¼ to simplify figures, which is close enough—all I have to do is to lay the measure on the camera from the pinhole to the groundglass, note the figure that falls above the groundglass, and multiply it by the predetermined exposure. Thus, say I find that the correct exposure at 5 inches would be 30 seconds, and when I lay the scale on the camera I find the groundglass falls under 3½ inches. At 3½ inches I find the fraction ½, meaning that I should give half as much exposure, or 15 seconds. If it fell at 7, I would have to give twice as much exposure, or 60 seconds."

"Pretty clever, I call it", said Ray. "Wait until I make one for my 6½-inch lens, and then I'll be ready to go make those test exposures. I guess we had better return and develop them, so that we can find out the comparative speed of our pinholes before making more exposures."

"We can make the test exposures out in front of the house", said Bert, "and develop them before noon. Then, after noon, we'll be ready to put our information into use. And, by the way, on that scale of mine I used the nearest fraction I could on some of them that didn't work out quite even; but it's close enough."

"Yeh, the latitude of the negatives will take care of that", said Ray.

(*To be continued*)

Katahdin—Peer of the Eastern Mountains

C. E. PALMER

KATAHDIN'S superiority as a mountain is accorded with no reflections upon the beauty or grandeur of the other noble hills in the eastern part of our country. No natural feature is so possessed of true individuality as are mountains, and to know any mountain great or small is to know and admire its distinctive features. The hills of Vermont are lovely, stretching in beautiful corrugations from horizon to horizon. The southern Appalachians are majestic in their high shoulders, rearing in mighty wooded crests from primeval valleys. The grand old mountains of New Hampshire are friendly savages, half-tamed by man, yet rearing their naked summits aloft into some of the wildest winds and weather in the world. Katahdin, however, possesses all of the features of majesty, loveliness, and savagery, but without the tamer aspects of the White Mountains, or the tiring repetition of the mountains of Vermont and Tennessee. Old Katahdin stands unrivalled, in majestic isolation, the splendid monarch of the mighty forests of Northern Maine.

Those whose knowledge of mountains is gained from the purple of their jagged skylines, as viewed from some distant valley road, or from books, are wont to judge their standing by the figures denoting their various altitudes. Altitude is no gauge of a mountain, as witness Mt. Washington in New Hampshire. Though Washington is the highest summit, and while it possesses some splendid features known only to the climber, it is "hog-tied" by a railway and tamed by a carriage road, and, as every climber knows, is far from being the grandest among the White Mountains, despite its superior height. Carter Dome, the Wildcat, and Lafayette easily place Washington in second rank as a real mountain, although its weather can be of unapproachable ferocity. Like persons, our regard and estimation of a mountain must be determined by combinations of conditions and qualities impossible of analysis by any determined rule.

Katahdin in Maine rises sheer and bold from the midst of some of the most magnificently wild land in America. Its gigantic bulk rules the horizon for fifty miles around and its 5,280 feet are revealed as every inch a mountain, splendid in contour and superb in the climbing. Inspiring and virile from every approach, it is even more impressive in its several summits, unchallenged by any neighboring elevations of comparable altitude. It is a man's mountain in every acre of its surroundings and every foot of its precipitous slopes. There is no softness anywhere about that beautiful glacial carving. Like a product of Michelangelo's chisel, it exists—a stimulation and challenge to the intellectual, æsthetic, and physical fitness of mankind.

Essential parts of this mountain's charm are the wild trails and gorgeous canoe paths

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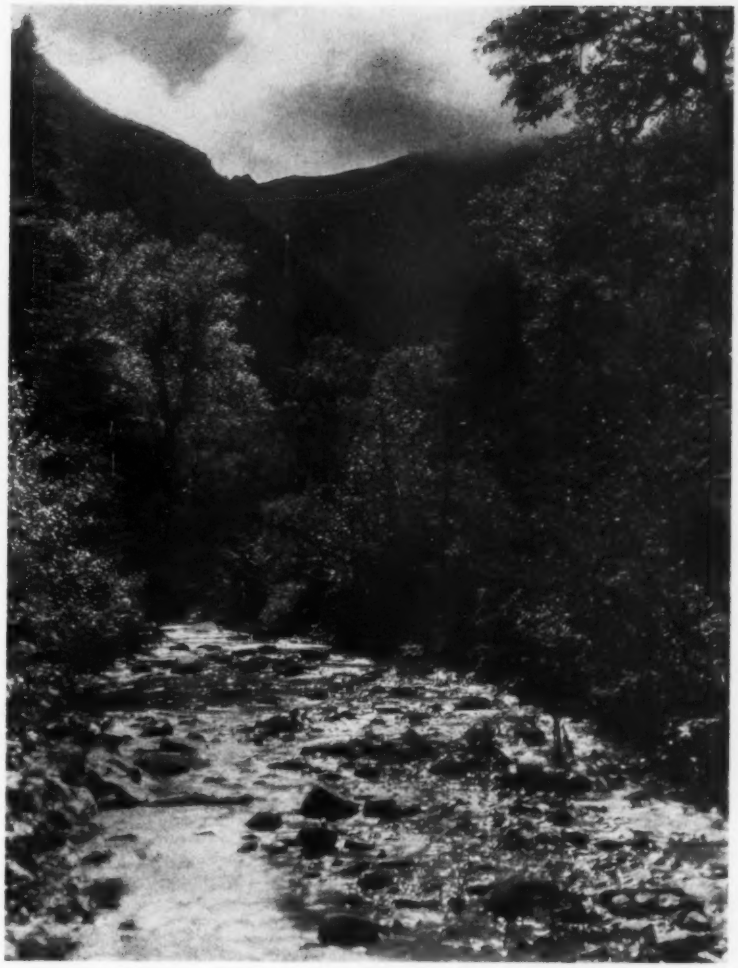
SANDY STREAM POND C. E. PALMER

that lead to its slopes. The mountain area consists of about 90,000 acres of the wildest land in America, and, as it has been a State game preserve for many years, the vicinity is doubly fascinating because of its wild life. Moose, deer, and bear abound, and those seeking pictorial effort among such subjects can find no finer territory. Free from the hunter, the game is easily come upon, and the region is so wild that the animals are entirely devoid of anything but curiosity about humans. While moose are naturally rather timid, deer can be approached with the ease of Vermont hillside cows, and bears are not at all adverse to smelling out your camp provender; so hang your ham and butter high if you visit Katahdin!

In respect to the ethics of the trail, and to prevent spoiling the allurement of the hunt, we shall not name any particular locality; but we can assure the camera hunter that innumerable spots provide certain success in wild-animal photography. A quiet station upon one of several pond-sides, or in the vicinity of certain barrens, will provide countless opportunities for capturing deer or moose on the negative.

While we do not wish to intimate that a trip to Katahdin is any actual hardship to outdoor people, we would say by way of reminder that there is no easy and lazy way to the mountain. One must be prepared to pack all supplies and expect some really strenuous travel, under the most favorable conditions. While many visit the mountain each year, there is no danger of being inconvenienced by numbers; the "tourist" simply does not go to Katahdin. A valuable point to consider is that those intending an extended visit must engage a competent guide. The laws of Maine do not permit the building of campfires in unorganized townships by parties unaccompanied by licensed guides. As the surroundings are wild, this is also a necessary precaution for the safety and pleasure of visitors. One unacquainted with the region might come to unpleasant eventualities, as the distances are great and the character of terrain very deceiving to any but experienced woodsmen. Competent guides can be engaged without difficulty at any of the sporting camps near the mountain, or through inquiry at any of the near-by towns.

The most usual approach to Katahdin is either from Millinocket on the south or from Lilybay, Moosehead Lake, on the west. The most direct route is that from Millinocket, from where there is a splendid view of the



PAMOLA BROOK
C. E. PALMER

mountain thirty-six miles away. Vehicles can be driven to Windy Pitch, but preferably not. Togue Pond, eighteen miles from Millinocket, is about as far as cars can be safely driven, and the route to this point is distinctly *not* an automobile road, as from two and a half to three and a half hours are required to make the distance under the most favorable conditions. At Togue Pond the tote road appears to improve, but the condition is deceptive; for in the five miles to Windy Pitch are many unsafe culverts and bridges, not to mention huge boulders lying in wait for crank-cases and axles. To meet disaster on this road means nothing short of complete loss of the vehicle. Upon notice, the camp at Togue Pond will provide buckboard transportation to the Pitch and, with sufficient planning in advance, even provide haulage and pack-horses to a point about one mile short of Basin Pond. The tote road is so completely washed out that horses cannot approach the mountain nearer, and it is a tax upon the intelligence and strength of the animals to get even that near to the mountain.

At Sandy Stream Depot, the way begins to rise sharply and the two miles to Basin Pond are arduous, especially with heavy packs. At Basin Pond the old tote road ends and a trail leads one and a half miles to weirdly beautiful Chimney Pond, at the head of the Great South Basin and immediately under the soaring cliffs of the mountain's main summits. Here there is a sturdy camp erected by the State as a quarters for its Game Warden in charge of the district, and shelter can be obtained when the warden is present. There is an open lean-to north of the camps that will accommodate about ten persons, and, to the south, another smaller one, which will provide shelter for four or five people. In recent years the southerly shelter has been badly out of repair and fit only for use in fair weather.

SOUTH BASIN C. E. PALMER

There is a closed camp at Basin Pond under the supervision of the Chief Forester for the district. This can be used by parties under care of licensed guides and who intend an extended visit; but arrangements must be made far in advance to obtain its use. Parties on a brief visit will do better in locating at Chimney Pond, situated close to the trails up the mountain.

Once at Chimney Pond your worries are over, for there you will most probably find Mr. Leroy Dudley, the Game Warden and

boss of Katahdin Game Preserve. "Roy", as he is affectionately known to hundreds of mountaineers throughout the country, is a gentleman and a woodsman of the first order. Whatever the emergency, he can be counted upon to meet it successfully. "Roy" radiates geniality and is a complete personification of the famed hospitality of the Maine woods. His aim in life, in his own words, is "to help everyone have such a good time that they'll go away saying and thinking fine things about this grand old mountain". To know Mr. Dudley is to appreciate that he is successful in his self-appointed mission. He has constructed and maintains single-handed all the trails on the eastern side of the mountain, and no man knows the region better. One of the supreme pleasures of a visit to Katahdin is a session about the fire at Chimney Pond Camp of an evening when "Roy's" pipe is drawing free and handsome and he engages in retailing yarns and anecdotes that are not all so artless as they at first may sound to unwary ears. Mr. Dudley is one of the most truthful and sterling of men; but when he launches into story-telling, he enters the practice of a high art beside which Paul Bunyan's yarns become mere "bedtime stories" for the unsophisticated. We hope "Roy" will sometime compile a volume of his inimitable tales. However, that's another story.

A long day is required for this route from Millinocket. The trek from Moosehead Lake to the west of the mountain is much longer and is best attempted by making arrangements with one of the sporting camps on that side of Katahdin. At Greenville the steamer is taken from Lilybay, where guides will meet the boat and conduct the party either by land or water to camp, from where the ascents up the long west slopes will be made. Automobiles may be driven from Greenville to the vicinity of Ripogenus Dam, where connections with guides can be made by arrangement. This trip, while it provides appreciation of the splendid Moosehead region, is not, so far as the mountain is concerned, to be preferred to the route from the east, which furnishes much more dramatic views and more sporty climbing.

The mountain is a great tableland rising with dramatic steepness on the east, and rather longer and easier grades of the west, from the surrounding forests. The plateau is surmouted by three summits—North Peak at the extreme northern end, Hamlin Peak about midway on the eastern rim, and Monument Peak, the main and highest summit, at the southern end. The slopes from the tableland up these superior rises are comparatively easy passages over vertically fractured rock. Between Hamlin Peak and the main summit lies the famous Saddle, an almost flat area densely grown to scrub, and providing some of the finest and most fascinating roaming ground on the mountain.

ASCENT C. E. PALMER

A brief but precipitous col separates Monument Peak from its twin, South Peak, of slightly lower elevation. From South Peak in a semicircular sweep, east, northeast, and north, lies the renowned Knife Edge, connecting with Chimney Peak. This, in turn, is divided by a most dramatic and steep col from Pamola Peak, immediately to the northwest, which falls away, fanwise, by the long slope of Keep Ridge into the forest to the east.

The contour of the tableland is sharply cut by three glacial ravines or basins, as they are called in Katahdin nomenclature. The largest and best known of these is South Basin, through which the approaches are made. This is about two miles in length and,

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KNIFE EDGE C. E. PALMER

at its outer, eastern lip, lies Basin Pond. About a mile and a half from there is Chimney Pond; and the Basin ends abruptly against the mighty cliffs composing the walls of the main summit, the Knife Edge and Pamola. South of Basin Pond the wall is cut by a very steep cleft separating Chimney Peak and Pamola, which ends at the dramatic col between the summits of these two peaks. This is the redoubtable Chimney, and one of the most hazardous rock climbs in America, calling for about four hours of the most strenuous climbing.

South Basin is separated from Great North Basin by a steep, fin-back wall known as Hamlin Ridge, which provides one of the favorite and most scenic ascents to the tableland. Great North Basin is little visited, and much of it still provides material for pioneer exploration by climbers, botanists, and geologists, not to mention the picture-hunter. The approaches to this Basin are so wild that few ever penetrate its mysteries. There are no trails, and it is hemmed by sheer walls of the tableland, North Peak, and Hamlin Ridge; and to negotiate its entrance, choked by great glacial deposits of rock, calls for the utmost patience. Beyond Great North Basin lies another and smaller ravine, a rather elevated shelf in the mountain wall, known as Little North Basin. This is easier of access, but is of comparatively little interest.

The ravines in the west face of the tableland are several, but are not so inspiring, with the exception of Witherle Ravine, through which most of the ascents from that side lead, and the little visited Klondike Basin. The latter is one of the wildest spots in America and is quite difficult of access except from the tableland. On the floor of this Basin is a long narrow lake of gorgeously savage beauty. This area is not safe ground except to the most experienced wayfarers.

East, north, and west of Katahdin are splendid arrays of lower mountains, upon the features of which we will not dwell. They are another story.

Katahdin is distinctly not feasible as a week-end or "flying" trip. The approach and return with any reasonable hope of enjoying the mountains requires from four days to a week under the most fortunate conditions; and such a visit can only afford a rather vague appreciation.

Like all isolated mountain masses, Katahdin provides weather of the widest variety at all seasons. Clouds sometimes shroud the upper slopes for days, and the winds are apt to be strong and long-continued even in mid-

summer. In fact, late summer and autumn are more dependable for favorable weather conditions. Weather means much on the upper slopes of Katahdin, as cloud or high wind makes traverse of most of the more interesting trails not only profitless and unpleasant, but actually dangerous. Passage of the Knife Edge is impossible in either dense cloud or high wind.

Enough time must be available to prevent utter disappointment because of a day or two of unfavorable weather. Hardy climbers who wish to experience as much as possible in a limited time and who can tote the pack without relying upon a settled camp will find—with good weather—the following five-day route ideal for an ambitious survey of the mountain.

By leaving Millinocket early in the day, Togue Pond can be made by safe driving before noon. By following the tote road and the continuing trail from Basin Pond, a not too strenuous arrival can be made at Chimney Pond for the first night's camp.

An early start next morning for a crossing of South Basin and a climb up Hamlin Ridge will allow arrival at Hamlin Peak before midday. From there the way can be followed along the tableland to North Peak and a return to Saddle Spring, where, in pleasant weather, a safe open-air camp can be made for the night. In emergency, a rapid descent can be made from the Saddle to Chimney Pond Camp and safety. On the third day a descent can be made into the Klondike Basin, where camp can be made somewhere about the lake. This will prove a very strenuous day. The fourth day will result equally exacting in a return to the Saddle for a camp that night. A sunrise start on the fifth morning will allow time to enjoy the climb over Monument and South Peak for the thrilling passage of the Knife Edge to Pamola. Arriving at the summit of Pamola by noon, the long passage down Keep Ridge via the St. John Trail will permit arrival at Togue Pond Camp in late afternoon, with just about time to arrive in Millinocket by sunset, or an overnight rest at the splendid camps.

KATAHDIN SUMMIT C. E. PALMER

This schedule, however, will not allow time for enjoyment of the forest and lakes about the mountain.

The picture hunter, whatever his medium, can find no finer material than is everywhere provided on and about Katahdin. The confines

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of a brief article cannot even satisfactorily hint of the infinite possibilities. There are years of strenuous inspiration all over the old mountain. Doubtless the features that will first arrest the enthusiast will be the marvelous walls, as seen from Hamlin Ridge and the rim of the tableland. The sheer drop-offs from Monument Peak, with the play of cloud shadow underfoot and the hundreds of lakes dotting the lower world, will call for a day of inspired study. A passage across the Knife Edge, one of the sportiest mountain passages in the world, will not only prove a real thrill but furnish possibilities allowed by no other mountain.

The views from Monument Peak are of a quality provided by no other summit in Eastern America. The most arresting feature is that which prompted Thoreau to remark that the surrounding world appeared as though a huge mirror had been shattered and the glittering bits thrown carelessly upon the grass. Hundreds of lakes and streams of every conceivable contour spread to the far horizon on every point and not a habitation of man is anywhere discernible, save a minute hint of Millinocket and Staceyville, far to the south and east. Northward, beyond the lower peaks rising from the tableland, lies a vast and pathless wilderness stretching beyond the horizon into Quebec. Immediately to the west rise the Katahdinaquah, a vast jumble of mountains of most eccentric shapes, with the Brothers and Mt. O. J. I. facing the tableland across the Northwest Basin. Beyond rise the higher summits of the White Mountains in purple splendor of distance. Squaw Mountain, just across Moosehead Lake, prevents the view of Mt. Washington.

We must select a few negatives from a bewildering array to tell a very meagre bit of the story, and only hope that more pictorialists will visit the region and return with superior trophies.

A brief mention of the illustrations:

Pamola Brook is a scene quite characteristic of the heart of the South Basin, showing the lower slope of Pamola relieved against the cloud-capped Knife Edge.

Katahdin Summit is a telephoto study of the main summit as it dominates the skyline at Basin Pond, with the rim of the Saddle spreading to the right.

Sandy Stream Pond is one of the splendid lakes that lie all about the mountain. This is the very heart of the Maine woods and a favorite haunt of moose and deer; and the fishing—well that's "another story again." This spot provides one of the finest views of the eastern face of the mountain, from Pamola, over the summit and around to North Peak.

Approach to Basin Pond represents the first dramatic view of the precipitous walls of North Basin, as seen at the top of the strenuous two-mile pull from Sandy Stream Depot, where the trail flattens a bit, out of pity for your wind and legs.

South Basin is a study of the cliffs from Pamola to Monument Peak, as presented from the first fin of Hamlin Ridge.

Ascent is another of the many studies toward Pamola and Chimney Peaks, and reveals the sporty Chimney separating the two summits at the eastern end of Knife Edge.

Knife Edge reveals this dramatic ridge from South Peak, when the early afternoon shadows first accent its savage wall.

Strangers to Maine who contemplate a visit can address the State of Maine Publicity Bureau at Portland for detailed information upon any phases of the trip, with the confidence that they will receive prompt and splendid service of a highly individual and gratifying sort. By stating any problems in detail, you will receive what amounts to the finest variety of personal attention. Plans for a vacation trip to the woods of Northern Maine will be greatly aided by consulting the beautiful and complete book "In the Maine Woods" published by the Bangor and Aroostook Railroad, Passenger Department, Bangor, Maine. This road also issues a thoroughly illustrated booklet of Mt. Katahdin, entitled "Katahdin in Maine". Both these publications can be obtained through the Publicity Bureau and will be of especial value to picture-hunters.

THOUSANDS of pictures have been made of the Cathedral of Notre Dame in Paris; but that does not prevent you from photographing it just as you wish to remember it in the years to come. The same thought applies to photographing the Lincoln Memorial in Washington or the Grand Canyon of Arizona. Try to think ahead as you make your pictures, and you will have cause to enjoy your pictures long after your touring days are over. And last, learn to make every exposure count to your advantage. Avoid carelessness and waste. A. H. B.

Try the Newspaper First

K. S. ANDERSSON

IN common with almost everybody else in the world, I have, for several years, been attempting to find some sort of outside work which would bring me in an income to supplement my regular salary. I have felt that my salary belonged to my family for the necessities of life; any money needed to further a hobby, or to buy the unnecessary but enjoyable things for myself, should be derived from some outside source.

FIGURE 1 K. S. ANDERSSON

View of the new road under construction. Though this was to be an article on the construction of the new road, and this picture showed one of the bridges and its approaches, this view was rejected in favor of the one with the single figure

I have always been interested in photography. If this outside income could be at the same time the product of something I liked to do with my spare time, so much the better. How to do it?

I started reading all the photographic magazines I could get hold of. In several of them I found articles apparently written just for me. I started to study these; studied the markets as suggested; developed my instinct for stories which could be told both in words and in pictures. I collected a card-indexed market list from various sources until I had a file of nearly a thousand addresses, together with a note telling me the kind of stuff each wanted.

I was not sparing of postage. I had good stories, I believed. Not owning a camera of even the minimum size recommended by these articles, 3¼" x 4¼", I borrowed a postcard-size one from a friend. I had, apparently, everything but the sort of thing any of the editors wanted.

Then, one day, I went for a drive with my family along a new road which had just been constructed to the site of a dam which is to be built to help control the Chagres River above the point where the Panama Canal enters it. I made several pictures on this trip. When they had been printed, it occurred to me that I had not seen any pictures of this road, even in the newspapers published here. So I picked out the best of the ones which I had made and went down to see the editor of one of these papers.

He seemed delighted to get them. "I find it difficult", he said, "to get enough pictures for my paper, particularly for the feature section. The staff photographers are busy on regular news-assignments, and cannot be spared often to go out to photograph things which are not spot news. I would like to use two of these"—and then he picked out the two which to me seemed the most unlikely ones of all, rejecting all of those in which I had half expected he might be interested.

"This one", he said, holding up Number One, "not only shows the road in question, but also definitely places that road because of the figure of the native standing upon it. I have seen several photographs of the new road, but this is the first one which contained any human figure."

The other one chosen was a view of the Chagres River below the site of the proposed dam. The uncompleted bridges, which were to me the most interesting in the lot, went out without hesitation. The remaining

FIGURE 2 K. S. ANDERSSON

View of one of the bridges under construction on the new road. To me, the meat of the entire story; to the editor, just another picture, to be rejected

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FIGURE 3 K. S. ANDERSSON

This is the picture which first took the editor's eye. The inclusion in the picture of the native with his load was the human-interest factor which sold the picture. He informed me that of all the pictures of the new road which had been received by him, this was the only one in which any human figure was included, and that he considered such a figure essential in order to differentiate this road from any other concrete road in any other country

pictures, which were a view of the field office of the construction forces and a photograph showing a boat landing supplies at the dock, I also had believed might be sold—but not so.

"Now, how about an article to go with these pictures?" he said. "I need about one and a half columns of story of the new road."

This I had not bargained on. However, I did it, and I have continued to do the same, on subjects running all the way from old history to modern news. Some have been illustrated by photographs, some have not; but I must thank that first picture for them all.

The papers do not pay so well as the magazines. The particular newspaper of which I speak paid me only ten cents a column inch for stories, and space rates for the photographs. At that low rate, a postcard-size photograph is worth only sixty cents by itself. The same photograph, however, accompanied by several hundred words of story becomes worth while, and the story is often sold by the picture.

The newspapers, having to get out an issue every day, will accept stories that would not do for the magazines. Even at the rate I have mentioned, I have earned enough the first month to buy myself a 4 x 5 Speed Graphic, and I expect to own a typewriter next month. And, if you see this in print, it will mean that PHOTO-ERA MAGAZINE has also paid me for telling you about it.

The point of the story is this. For the amateur, the newspapers are a far more sure market for feature free-lance articles than the larger, better-paying magazines; and, at the same time, they give one an insight of what the editors want. If you wish to make that hobby pay, try the newspapers.

Hypo-Elimination by Direct Methods

SIGURD MOIR

WHERE efficiency and permanence of image are considered factors, the thorough elimination of hypo by direct washing is a necessity. Chemical "eliminators" and even unaided rinsing may suffice for certain kinds of rapid work; but while the immediate results of rinsing are not very enduring, "eliminators" give rise to the formation of deleterious products—so that neither method can be seriously considered in connection with pictorial or exhibition work.

Direct methods, however, vary somewhat in character, each method being found to possess its own particular advantages. It can be shown, too, that hypo is more difficult to remove from prints than it is from negatives; so that the real problem is to select the most suitable method for application to the particular task in hand.

WASHING

All the methods rely upon the use of a suitable tray or tank, which may vary in nature from the butler's ordinary sink to the elaborate revolving-drum tanks known as Baynton's "turbines". Manufacturers' washing tanks do not, however, all operate on the same plan,—like the methods referred to above—they are not restricted to any one theory; thus do we find several varieties enjoying at the same time a fair share of popular favor.

Among these methods we can include

syphoning, gravitation, the cascade, and washing by changes. In most of these, the theory exists that if the materials to be washed are suspended near the top of the tank, free hypo-solution will tend to fall to the lower levels by virtue of its higher specific gravity.

Gravity and Diffusion

It has been found, however, that this is of practical importance and value only for a short time after the saturated materials have been placed in the tray or tank. To confirm this, we may introduce some strong hypo-solution into a small tank containing pure water; after a time, samples drawn off (with a pipette) from the lower levels will be appreciably heavier than those removed from above. Eventually, however, the difference becomes so small that it may—for all practical purposes—be neglected.

The reason for the change is "blending" or diffusion. This can be avoided only by allowing the heavier, contaminated solution to pass out immediately it falls to the bottom of the tank; otherwise, following the tendency of most of the easily soluble salts of this nature, the hypo will be diffused throughout the whole volume of the water with which it is in contact, until at last the water itself may be as much contaminated as the print or negative undergoing treatment.

With regard to practical application, it can be said that all apparatus which is based fundamentally upon this system is enabled to perform the necessary task of elimination without violence to the materials being treated. For this reason, valuable prints and negatives may be entrusted to its charge with the utmost confidence.

Forcible Washing-Methods

In the cascade and other washing-methods where rapidly-running water is made to pass over prints, negatives, and enlargements, there can be no hastening of the process of hypo-elimination—since diffusion will continue to take place at the normal rate applicable under existing conditions of temperature and other factors.

Moreover, where only a thin layer or film of water is forced—with or without intermittent lapses—over the emulsion, the degree of efficiency may be appreciably lower than that which would prevail were no force whatever being employed. Whirling, and the similar rotation methods, can none of them shorten the time required for thorough washing. They are worthy of note, however, since they effectively prevent prints and other materials from overlaying one another or "packing", a trouble that may be very prominent in the gravitation methods. "Packing" is seldom encountered in the whirling methods and, of course, never with the cascade.

The practical value of forcible treatment, then, lies in this one particular, and it should certainly be adopted where a large number of prints or cut films have to be dealt with in a limited space and without appreciable loss of time. We must not overlook the fact, however, that this treatment must be regarded with suspicion as the primary cause of pinholes and abrasions coming at this stage.

Occasional inspection of the soft emulsion, coupled with slow but effective movement, is to be preferred to rapid whirling.

Washing by Changes

The method of washing negatives and prints on all backings in changes of clean water is still without a better, so far as efficiency in production is concerned. For special work, it should always be employed, its only drawback to more general use being that it requires greater personal attention than most other methods.

Diffusion must again be referred to as the process by means of which washing is actually carried out, the consecutive changes gradually clearing the source of contamination to vanishing point. Without a definite knowledge of the particular circumstances, it is difficult to state the times and number of changes necessary. The following must, therefore, be accepted only as a rough guide, assuming that the washing-water is not allowed greatly to deviate from the constant temperature 60–65 degrees Fahrenheit, and that a deep tray not excessively loaded is employed.

Negatives, glass and film;
8—4-minute changes
Prints on "Single-weight" base;
10—5-minute changes
Prints on "Double-weight" base;
10—8-minute changes

Workers with a scientific turn of mind may care to apply the permanganate or the iodide of starch test to a little of the waste water a little while before the full times have expired. Directly no positive reaction follows, drying should be proceeded with, it being found that continued washing is detrimental to the emulsion-surfaces.

XUM

A Vacation With a Camera

Part I

SAMUEL F. RACINE, C.P.A.

TALK about a vacation that's a real vacation! Did you ever contemplate one that included an automobile ride along the shores of a very beautiful body of water for 150 or 200 miles; a trip on a mail boat way up to the edge of nowhere, so far away from civilisation that even the mail boat's captain is an Indian; a sojourn in an Indian village, a trip on a purse seiner twenty miles out in the ocean after salmon, and a horseback ride clear across the United States? I will wager you never did; and, therefore, I am going to tell you all about it, for just such a vacation trip as that was my experience not very long ago.

We did not spend much time thinking about it; but one morning we looked up the ferry schedules, threw all of our dunnage into the old car, and made the best time that the law would permit, so that we should catch the ferry across Puget Sound for a run of about an hour and forty minutes.

The south shore line of Puget Sound and the Straits of Juan de Fuca are right along the foothills of the Olympic Mountains and, before logging operations denuded the country, was heavily wooded and was one of the most beautiful parts of our most beautiful State. It is still beautiful, but now most of the mammoth trees are gone and there is a perfect road, one of the most delightful that we ever hope to see. The tendency to stop, admire the cliffs, the beaches, or the wooded sections, watch the steamers going by, and things of that sort, is rather strong; but we concluded that as long as the light wasn't right for a picture, we would postpone the stops till our return, when we might be able to make pictures and get a better view at the same time.

The highway is lined with rhododendrons, most of them of the pink variety, and after admiring enormous groups a number of times, we could resist no longer and had to stop and try our hand at flower pictures. If you ever tried to make a picture of a flower out of doors, you will realise what we were up against. The least little breath of air causes the flower to move, and this is particularly true where there is such a heavy flower as the rhododendron on such a light stem. Then, too, allowance must be made for the green foliage, which is nearly as slow to record on a photographic plate as a red object; however, we concluded that pink and green would register about the same and were quite pleased with the result.

The now extinct glaciers in years gone by carved out enormous gullies. Some of them are narrow enough so that they could be bridged; others, however, are so wide the road builders found it necessary to build down into the canyons and up on the other side. Either method made the beauties of the canyons available to us, and we had every opportunity to admire and recreate our love for the great outdoors.

Most of the streams are without very much interest unless they are followed up into the hills; but one little stream, away out on the Olympic Peninsula, seemed to be still joyfully bubbling along with some of the enthusiasm that must have been created way up in the Olympics. When watching the water glide by under the trees we couldn't help but think of what it had been through. First, probably thousands of years had been spent on the mountain tops while it slumbered in the form of ice. The new ice forming at the top forced the older ice down into the warmer altitudes, and then the melting process occurred and the water, symbolic of life, rushed out from under the glacier and down over the rocks and falls until it reached the point where we saw it supreme and tranquil, but smiling and bubbling here and there as it wended its joyful way in under the trees and between the banks, only to pass out of existence a few hundred feet beyond where the river empties into the salt water and loses its identity. We just had to make a picture of this stream.

Soon we reached the little town of Clallam Bay—a hotel, a store, a few dwellings, and a long dock. There was quite a heavy swell and the wind was blowing hard. Inasmuch as we are not seafarers, we were quite interested in the kind of boat that we would have to carry us out to Neah Bay, our destination. Shortly after dinner, we espied it rolling around out in the Straits. It wasn't a very

SEAL ROCK SAMUEL F. RACINE

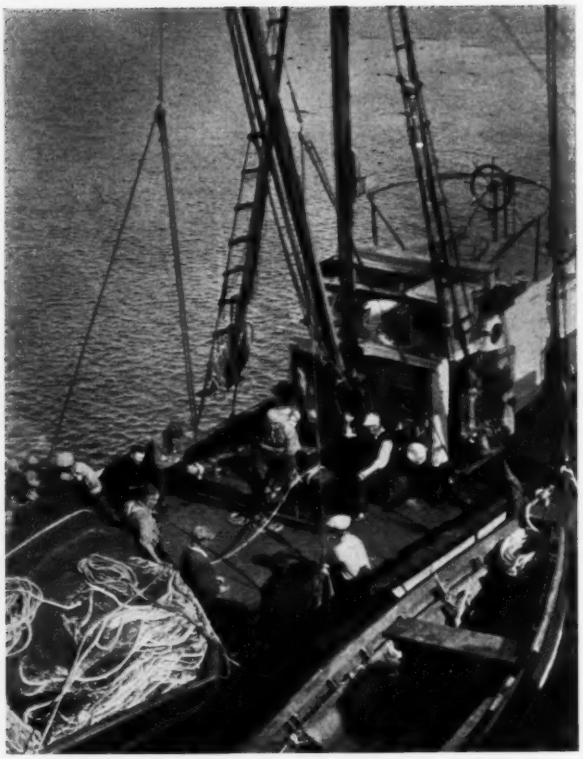
large boat, considering the fact that its route is right out on the edge of the ocean; but least reassuring of all was the lifeboat—just an Indian dugout that looked as if it would capsize on the least provocation; however, we found the "Hunter IV" to be a seaworthy little vessel and the captain a very competent individual. The water was rough and the waves frequently broke over her, flooding even the stern, where we were perched on a coil of rope; but notwithstanding all this, we stuck it out and stayed on deck, simply because I knew from past experience that but a few minutes under cover would elapse and I would necessarily be back on deck again, anyway, trying to save my dinner.

While it is true that the water was rough, it did not appear to be at all treacherous; but evidently it does kick up quite a fuss when it goes on the rampage. At least, new lumber was strewn all along the shore, indicating that some boat had been compelled to jettison part of its cargo. The broken hull of the Bianca, a large ocean-going vessel, was still visible on the rocks. The most interesting thing on the trip, however, was Seal Rock. (Our picture Number One—F/4.5 stop, 1/25-second). This is an island consisting of an enormous rock, approximately three hundred feet high, which looks like a large sea lion. The rock is covered with moss, and the sides are precipitous, as will be seen in the picture; but notwithstanding this, a tree rigger climbed it, taking a long pole with him which he stood upright on the top of it. I cannot imagine how anyone in the world could ever climb the rock; or, having reached the top, how it would be possible for him to return; but tree riggers have an uncanny ability at climbing. Their work, as you know, consists of arranging the rigging on big trees to facilitate overhead logging.

Neah Bay is the farthest west of any village in the United States. It is the home of the Maccaw tribe of Indians; but its importance is due to the fact that it is also the headquarters for all the American fishermen who fish the Straits and the shoals out in the ocean. Hundreds of boats were tied up while we were there. Fishing wasn't good enough to tempt them out, although we thought there were a number of rather good catches. One man came in with quite a few fish, and his earnings were in excess of thirty dollars a day, which didn't seem so bad.

I forgot to tell you that this was a business trip, and this gave us an excuse to get our meals on the cook scow of one of our

XUM



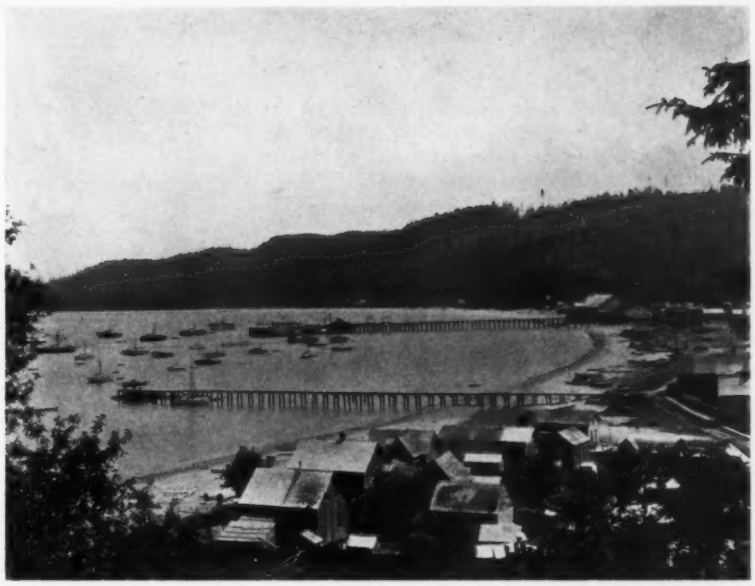
ON BOARD A PURSE SEINER SAMUEL F. RACINE

clients. We certainly fell in love with the cook and the eats, even though the rapid increase in weight of a pound a day drove us home long before we should have thought of returning. We couldn't even contemplate the results of a visit of, say, ninety days.

The cook introduced us to one of the native girls, and from then on we were favored with everything that the town provided. She arranged horses for us, and we rode from Neah Bay across the point—clear across the United States, in fact—in a southwesterly direction, a distance of about six miles, and had a most enjoyable time. We were short one horse, and tried to catch one that was running at large. There were six or eight horses that we started to work on. I divided my time between trying to get a picture with action in it and trying to help corner one of the horses, so that we could get a rope over his neck. We did get one caught in the brush after awhile and slipped a rope on him, so we had a mount apiece; but the pictures were far from perfect. I found when I developed them that black horses and bay horses, green trees, weather-beaten houses, and dark-skinned individuals all photographed the same, so that about the only distinguishable feature of the picture was the white waist that one of the boys wore.

While we were trying to rope the horses, the tide came in to such an extent that we had to swim the horses in order to get across the sloughs. We got our trousers wet—at least I did; but I was the hero of the day—I saved the lunch. It was lots of fun. We picnicked just out of reach of the ocean swell under a gnarled old tree that was twisted and torn by the wind, and we certainly enjoyed the eats that our friendly cook had prepared for us.

After returning from the horseback ride



NEAH BAY FROM THE CLIFF SAMUEL F. RACINE

we chartered one of the fishing boats and took a run out about six miles to Tatoosh Light. We succeeded in getting quite a few pictures of the extreme northwestern point of the United States. It is certainly a difficult thing to obtain a picture of a shore line from a small boat while a heavy sea is running; but by cutting the time down to 1/50-second we accomplished this and obtained a few very fine pictures. Tatoosh Island, however, was on the wrong side, and our pictures did not register so well as the pictures made from the other side of the boat, where the light was more favorable.

While we were making the run the Indians told us something of the history of the tribes in that district, and of the early settlements of the white people. They told me how their people had seen the ships go by for nearly a hundred years before any of them stopped. Then a ship came into Neah Bay Harbor and started to make a settlement. The *voyageurs* started to build houses, and evidently intended to stay there for some little time. It must have been along in the early part of the summer, as the berries were ripe. The women folk were out picking berries and saw the settlers building their houses. They tried to keep under cover, but the men espied them and started to chase them. When the women returned to camp they told a story which excited the few boys who were not away on fishing trips, and the boys rushed over to the encampment and started pinging at the settlers with arrows. They were so active that the settlers evidently thought the whole Indian tribe was after them; at least they hurriedly packed up their equipage as best as they could and, storing it on the vessel, sailed away never to return. No white settlement has since been attempted in that district, even up to this time.

Upon my return to town, I looked up the record of the settlement of Neah Bay, and in one of the histories of Washington I found that in 1792 Lieutenant Salvador Fidalgo was sent there to establish a fort for the Spanish. He named the place Nunez Gaona, but stayed there only a short time, without making a permanent settlement.

[Part II of Mr. Racine's vacation story will follow in the August number and is filled with interesting information, photographic and otherwise.—EDITOR.]

XUM

Something Different

P. B. BACHELLER

THERE are many like myself who prefer the small camera as a traveling companion even to one no larger than the postcard size—and why? First, for optical reasons, the same shutter-speed of a camera with 3½- or 4-inch focal length lens will stop a much faster motion than one of 6½-inch focal length. Second, the short-focus lens has a much greater depth of field, making it easier to focus and allowing a larger stop to be used, and consequently it may be used for pictures in a much poorer light. Then, the small films cost so much less that we may have more pictures and a larger variety. There is one drawback, however, to the short-focus lens—that of distortion caused by the desire of us all for larger figures and our thoughtlessly taking the wrong way to get them.

We all like prints for our albums, or, at least, the best ones, to be 3¼ x 4¼ or 3¼ x 5½ inches in size; and how easily these little negatives, even when made far enough away to avoid distortion, may be made to yield large prints—for it is certainly a poor negative in the vest-pocket or 2¼ x 3¼ sizes that won't stand enlarging to postcard size!

But, you will say, how are we to have these enlarged prints without a large expenditure of money? Listen, friends, and you will see how easily the writer made an enlarger to do this work at a very small cost.

The first item to consider was the lens. I was very fortunate in getting a second-hand Wollensak Anastigmat lens F/7.5 of 3½-inch focal length in barrel. It is a fine little lens, cutting sharp to the corners, even when used wide open.

Next, it is best to make the bromide paper holder for all the other measurements start from this. For this holder obtain a postcard size printing frame—heavy weight if possible—and on one end of this frame fasten with screws a strip of hardwood to cover the whole end of frame and one-half inch in thickness. On the front, all around the opening, fasten strips of wood 3/16-inch thick, with glue and brads, to hold the dark slide. On the two sides and the short end of frame put strips of cardboard under the wood strips to allow for the thickness of the slide and allow it to slide easily, leaving, of course, a little groove all around for the slide to travel in. It is well to fasten with glue and brads a little bead on the wide end, to exclude light when holder is in use. A good dark slide may be cut from an old 5 x 7 plateholder slide. A light trap in slide slot is not necessary.

In order to enlarge from negatives smaller than 2¼ x 3¼ inches and from parts of negatives, it is necessary to provide for more than one degree of enlargement, and by experiment these degrees were found to be 1¾, 2, and 2¼ times.

From a clear pine board ¾-inch thick, cut strips and make a tube the outside dimensions of which shall be the width of the paper holder one way and lacking ⅜-inch of the length of the paper holder the other way, and such a length that the finished tube shall be 12 5/16 inches in length from bromide paper when paper holder is in position on one end of tube, as illustrated. Cut strips of pine ½-inch thick and 2¼ inches wide and screw on three sides of the end of the tube that is to carry the paper holder, the back edge to come out even with the back of paper holder. On the other side of tube screw a strip ⅜-inch thick under the long end of paper holder, with a groove in it to take the bead of the holder. Place two wooden buttons, as shown, to hold the paper holder in position when in use. Finish strips may be put on the front end of the tube; also six wooden buttons, as shown in the cut, to hold the lens holder in the three different positions. Two and one-half inches in on the inside of the end of the tube that is to contain the lens holder, brad in little strips all around to stop the lens board. Add a little handle for convenience, as shown in picture. Screw a strip ¾-inch thick, 2⅜ inches wide, and 16½ inches long to the under side of body tube for a slide to hold the negative carrier.

To make the lens holder, cut from the ¾-inch stock a piece of the right dimensions to make a sliding fit for the inside of the body tube. In the exact center, bore a hole accurately, the correct size for the lens tube and screw lens flange on one side. On the other side of lens board, screw strips ¾-inch thick and 1¾ inches wide up edgewise across the ends, and inside of these strips screw

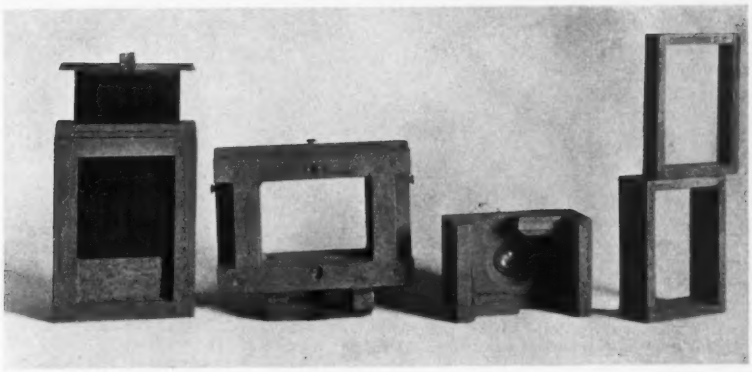


FIGURE 1 P. B. BACHELLER

Showing paper holder, negative carrier, lens holder and extension rings

blocks ¾ x ⅞ x 2 inches up edgewise at opposite ends, as illustrated, and bevel to make a neat job.

Next make two wooden extension rings from ⅜-inch stock, one ⅞-inch thick, the other 1¾ inches thick, as per illustration. These also are to be a sliding fit for the inside of the body tube.

To make the negative carrier, cut from ¾-inch stock a piece 7¼ x 5⅛ inches and cleat well on back, as shown. In the exact center of this board cut an opening 3 x 4 inches. On the front of this board, place guides to hold two glasses size 3¼ x 5½ inches. On the lower edge of carrier, place slide-guides each three inches long, and on the bottom of completed carrier an old brass printing-frame spring properly shaped to hold the carrier securely on the slide. The illustration will make this clear. Place some button tacks around edge to hold focusing cloth.

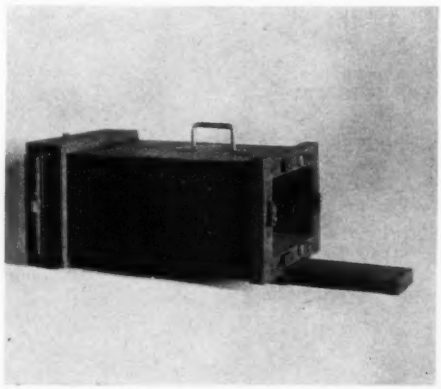


FIGURE 2 P. B. BACHELLER

Showing body tube complete with paper holder in position for use

A diffusing screen is necessary when using artificial light, and this was made from a light-weight 4 x 5 printing frame without cover, with a piece of opal glass cut to fit inside the frame and held with two little screws, the finished screen to be screwed to the front of the negative carrier, when necessary, with the opal glass in front.

To make the masks and negative holders, obtain seven pieces of good clear glass—dry plate glass is best—each 3¼ x 5½ inches in size; also six pieces of duplex paper such as come in film rolls, these also to be 3¼ x 5½ inches in size. In the exact center of two of them, cut openings 1 13/16 x 2⅞ inches and 1 13/16 x 2 7/16 inches respectively, and number the two No. 1¾. In two more, cut openings 1 9/16 x 2 9/16 inches and 1 9/16 x 2⅛ inches, and number these No. 2. In the other two, cut openings 1 7/16 x 2 5/16 inches and 1 7/16 x 1⅞ inches, and number these No. 2¼. With a heavy starch paste, fasten these papers to six of the glasses just by the ends only, so that the film negatives can slide under.

Black the whole apparatus inside and outside with a dull finish made by mixing 8 oz. Wood Alcohol, ½-oz. Lampblack, and 1 oz. Liquid Shellac thoroughly, and applying with a small paintbrush.

To focus the enlarger, put a piece of groundglass in the paper holder, with the ground side in front. Put a good sharp nega-

XUM

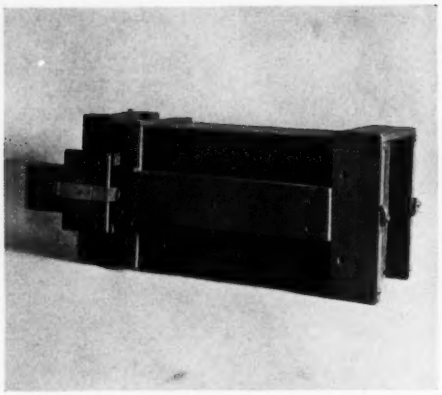


FIGURE 3 P. B. BACHELLER

Showing bottom of enlarger

tive in one of the negative holders with dull side next to the glass, and this into the negative carrier with the dull side of negative next to the lens and the piece of clear glass in front to hold the negative flat. With the lens at the largest stop and the lens holder in the body tube, as far as it will go, cover the enlarger and your head with some dark cloth and point the enlarger to the light—daylight is best—then work the negative carrier on the slide until the image is as sharp as possible on the groundglass. It will then be in focus at 1¾ times. Screw little blocks on the sides of the slide with the negative carrier in this position. To focus for the two times enlargement, remove the lens holder and insert the ⅞-inch extension ring in the body tube, replace the lens holder, turn buttons and focus as before, then make a mark on the slide in front of negative carrier. To focus for the 2¼ times enlargement repeat the above operation, only use the 1¾-inch extension ring in back of lens holder. When this focus is obtained, mark the slide again ahead of negative carrier, and you are ready for enlarging.

Proceed as follows: Place the negative to be enlarged, face or dull side next to the glass, under the sized mask that will give the best composition. Cover this with the clear glass, and place in the groove in the front of negative carrier with the dull side of the negative next to the lens.

On the back side of the mask will be found a number. If this is 1¾, both lens holder and negative carrier should be back toward the body of the enlarger as far as they will go. If the number is 2, remove the lens holder, place the narrowest extension ring in the space back of the lens holder, replace holder, and turn buttons. On the bottom of slide will be found two marks. Place the front side of the negative carrier at the mark nearest the body of the enlarger. If the number is 2¼, use the widest extension ring in back of lens holder and place front of negative carrier even with the outer mark on the slide. Be sure the mask glass and cover glass are free of grease and dust. Set lens stop at F/11 or F/16, then button focusing cloth on buttons on negative carrier from the back side.

Remove paper holder from back of enlarger and in the darkroom fill in a piece of bromide paper to fit the negative and replace the holder.

To expose, place enlarger with negative facing north daylight with a piece of cardboard over negative, remove slide of holder, and cardboard. After exposure, replace slide and remove holder to darkroom for unloading.

To use the printer with artificial light, screw the opal glass diffusing screen to the front of the negative carrier with the glass slide in front.

[There are those who might suggest that making one's own photo-equipment is apt to be like some gardens—cost more than to buy the vegetables at the market. Leaving cost out of the question, we know that a large number of readers enjoy making things with tools, and it is for them that we publish how-to-make articles from time to time.—EDITOR.]

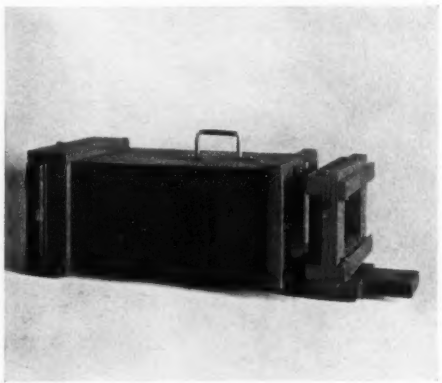


FIGURE 4 P. B. BACHELLER

Showing enlarger completely assembled

Speaking of Photography

VI—What Is a Good Picture?

A. H. BEARDSLEY

ONE of the problems of photography for many years has been to determine accurately, scientifically, and positively what makes a picture good. Remarkable progress has been made in optical, mechanical, and chemical photographic equipment; but, as yet, there is no definite formula by which one good picture after another can be made—the kind of picture which all salon juries at home and abroad will accept without a question. To be sure, there are rules of composition and many excellent books on the subject of planning and building a good picture. We are told about balance, light and shade, high and low key, where the center of interest ought to be, and atmosphere. Yet there are times when a certain picture grips us and at the same time violates many rules of pictorial composition. Often such a picture is accepted at a salon, much to the discomfiture of more conservative exhibitors. Then, again, we have the picture which is beyond criticism. Such a picture grips us because of its very power over us, and still the most ruthless critic can find nothing wrong with it. There are, and will be, such pictures; but they are very far from being turned out on a mass-production schedule—even in this ultra-modern day.

Yes, what is a good picture? Really, I believe that it is of advantage to have this question remain unanswered—that is, if by answering it, we stifle the very thing pictorial photography is doing to bring pleasure and benefit to thousands of men and women. It is the search for the new, the beautiful, and the expression of thought pictorially that makes photography fill a present-day human need. The making of pictures should ever remain unfettered by rules and formulas so far as personal expression and initiative are concerned.

After all is said and done, we either like or dislike a picture. We vote for it or against it as a member of a jury of selection or as a critic. In any event, we react toward a picture favorably or unfavorably. All the rules and regulations to the contrary, the judging of pictures is nothing more nor less than the personal opinion of each member of the jury. One member leans to portraits and another to landscapes. They try to be impartial and fair; but each unconsciously favors his branch of photography. Other things being equal, if there is a possible choice, one will favor portraits and the other landscapes. After all, there is nothing especially strange about this. A man may be an excellent judge of music and yet personally obtain greater enjoyment from vocal rather than instrumental selections. He is only too glad to speak well of all music; but, if there is any choice, he will favor the song. It seems to me that sometimes we may lose sight of the fact that juries of selection at salons and elsewhere are human and that they do react very much as "even you and I" in the same circumstances. The judging and criticism of pictures should be on the basis of an expression of honest opinion—nothing more nor less. Whether we approve or reject a picture, we must have our reasons. Obviously, the judge or critic of many years' experience will carry greater weight in the discussion, and his opinion should receive every consideration; yet even judges and critics have their day, and times and styles change. We have seen prints rejected at one salon hung at another, and vice versa.

In conclusion, let me suggest that judges, critics, and pictorial photographers take themselves less seriously when it comes to salons and exhibitions. Let us all remember that human nature is about the same the world over and that praise or acceptance in one place is no indication of praise and acceptance elsewhere. The vital thing is to keep smiling, good-humored, and patient even in the face of rejection and unfavorable criticism. After all, salons cannot make or break. There is many a man and woman at the top today who long ago learned to take rejection and criticism with a smile, and keep right on going toward the objective. Let me suggest that a good picture is one which brings to the beholder the same thrill that the maker felt when he made the exposure. The true picture is simple, beautiful, compelling, and inspirational to all who view it. It tells its own story so well that it may not even need a title.

XUM

Official Photograph, U. S. Army Air Corps

THE WHITE MOUNTAINS FROM LAKE WINNEPESAUKEE

8TH PHOTO SECTION, U. S. AIR CORPS

EDITORIAL

We Have the Tools

DURING the past few months there have been some pronounced changes in photographic equipment and in sensitive material. As the days go by and we hear and see what is happening, we are led to wonder whether amateur and professional photographers really grasp the tremendous importance of the remarkable improvements which make photography today almost unbelievably efficient and interesting. We may try to blame "our tools" for photographic failure; but we are afraid that our case will receive scant attention in view of what photographic manufacturers and dealers are providing for us today. It may be said safely that, with very few exceptions, most poor pictures are not the result of defective equipment or material but rather lack of intelligent mastery of one or both on the part of the photographer.

Recently we have watched with keen interest the work of two photographic experts with whom we have been privileged to work in the field and in the home. We have seen results obtained with Photoflash lamps and supersensitive panchromatic emulsions which were almost unbelievable had we not been present and seen for ourselves. Even ten years ago, who would have thought it possible to make a five-second exposure by the light of an ordinary bridge lamp and obtain a well-lighted home portrait? It was done in our presence and we have the print. Again, who would have thought it possible to obtain a well-exposed landscape negative at stop F/22 with the shutter set for 1/25-second? Then we have the Photoflash lamps, which are so easily used and so effective that we began making pictures in places and situations where photography was out of the question before. In fact, we have found a new thrill in photography; and, from all accounts, there are many others who are doing likewise.

A few months ago, we heard about new cameras, lenses, and accessories. Some are now available and some are still being made ready for market. Hardly a week passes without the announcement of something new. Really, there is such a wealth of equipment now available, and at prices suited to the purses of all, that both amateur and professional photographers may well be at their wit's end to know where to look first. Probably never before has the photographic market offered so many outstanding "tools" as at this time. If equipment has anything to do with it, the summer of 1931 should show the greatest photographic activity since the discovery of photography.

Although it is true that we now have material available which makes photography more interesting and profitable than ever before, we should not lose sight of the fact that, after all, the human element always has affected and always will affect the final result. Photoflash lamps are very effective when properly handled. Supersensitive and hypersensitive material will do wonders when properly handled. Unless amateur and professional photographers will take the time to master the new equipment and material which they may buy, the new things in photography will mean nothing but failure. To play golf well, one must take lessons, practice and master the game. To photograph well one should—but the rest is self-evident.

There is no question but that the summer of 1931 offers amateur and professional photographers new worlds to conquer technically and artistically. Certainly we have the tools with which to work. It now remains to be seen how well we can use them to our own advantage and that of others. There is a new thrill in photography this summer.

JUSTICE is the only worship. Love is the only priest. Ignorance is the only slavery. Happiness is the only good. The time to be happy is now. The place to be happy is here. The way to be happy is to make other people happy. R. G. INGERSOLL.

WHEN you get into a tight place and everything goes against you, till it seems as though you could not hold on a minute longer, never give up then; for that is just the place and time that the tide will turn. HARRIET BEECHER STOWE.

XUM

OUR MONTHLY COMPETITION

Closing the 5th day of every month
Address all prints to PHOTO-ERA MAGAZINE, Monthly Competition
Wolfeboro, New Hampshire, U.S.A.

Awards

First Place	10 Points
Second Place	7 Points
Third Place	5 Points
Honorable Mention	4 Points

(*a*) The person having the highest number of points at the end of the year, December 15, 1931, will receive an engraved silver cup; the next two highest, smaller engraved silver cups; and the next five highest, one-year subscriptions to PHOTO-ERA MAGAZINE.

(*b*) *All who win awards receive Certificates.*

(*c*) Those who win an Honorable Mention Award and are *not regular subscribers, or have not been regular subscribers,* will receive PHOTO-ERA MAGAZINE for six months, with the compliments of the publishers.

(*d*) No competition-pictures are sold, exchanged, or the halftone-plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker of the picture.

(*e*) All competition-pictures not returned are used to make up the PHOTO-ERA PICTURE EXHIBIT which is sent to schools, libraries, museums, camera clubs, and to responsible organisations for exhibition-purposes, *free of cost.*

Rules

1. This competition is free and open to all.
2. Not more than two subjects may be entered. *Composition, exposure, and photo-finishing must be done by the competitor.*
3. Mounts must not be larger than 16 x 20 inches. Prints may be mounted or unmounted.
4. Each print must bear on the back the maker's name and address, and the title of the picture, and should be accompanied by a letter, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer, and printing-process. *Entries which do not comply with this rule will be omitted.* Enclose return postage. Data blanks sent at request.
5. Prints receiving points become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

Photo-Era Competition Cup

6. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces is sent with data.
7. Overseas competitors may send prints for several competitions at the same time. This will facilitate packing and reduce transportation charges.

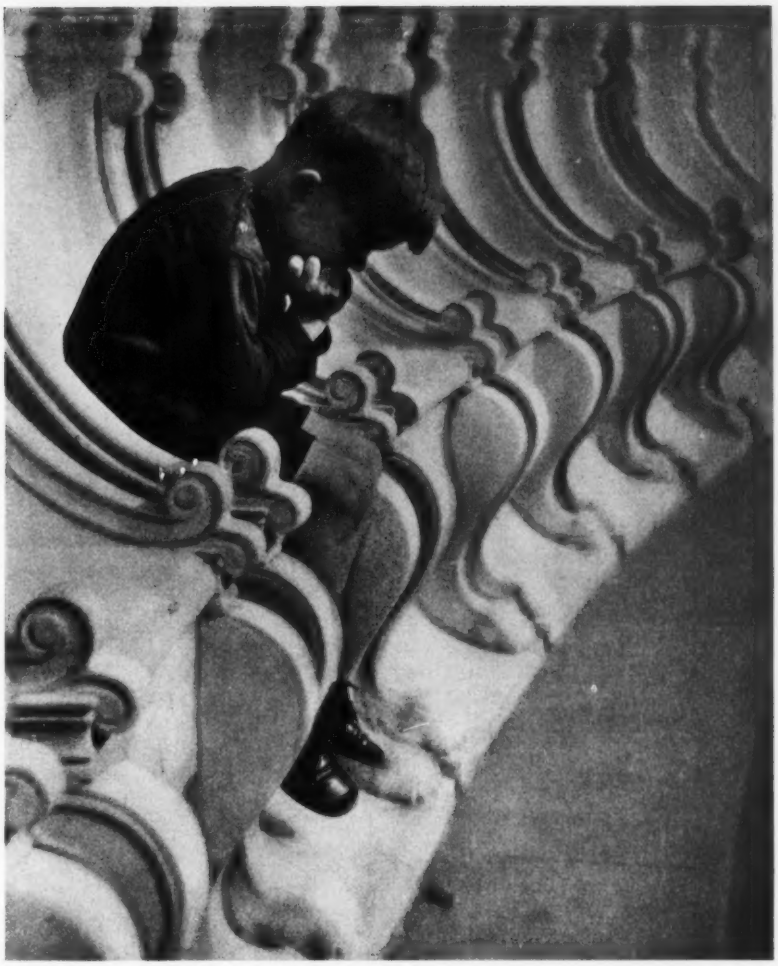
AWARDS—OUR MONTHLY COMPETITION

Subject—MISCELLANEOUS

Closed May 5, 1931

First Place	Dr. Irving B. Ellis
Second Place	Dr. F. F. Sornberger
Third Place	Waldemar Glass

Honorable Mention: Roy and Brownie Adams; Edward Alenius; Edward Andres; Edward Bafford; John Barry; James A. Bell; Edith Bethune; Paul Bras; Dr. Glen H. Broyles; Alexander Clair; Robert B. Clark; J. Daniels; Gilbert Davies; R. W. Dawson; Howard G. Dine; Robert Ewoldt; Harry B. Fisher; George W. French; E. Graham; Aileen L. Grapensteter; L. P. Gravel; Edward L. Gockeler; Dr. Kelley Hale; Zoltan Herczegh; F. J. Hermann; M. Itoh; U. Stephen Johnson; Sorab J. Kharegat; Dr. K. Koike; Edouard C. Kopp; Emil H. Kopp, Jr.; Fred G. Korth; Alma R. Lavenson; Alexander Leventon; Charles Linke; L. A. Lisy; Johannes Lowenstein; Wesley Lord; Melvin Martinson; Kusutora Matsuki; William J. McCune; Anne H. Mellin; John C. Moddejonge; A. E. Moebs; M. G. Monami; A. G. Niido; Dr. B. J. Ochsner; G. Hilliard Ross; James Simpson; N. P. Smith; Charles L. Snyder; Harry W. Story; Dr. Max Thorek; Arthur M. Underwood.



THE LITTLE THINKER
DR. IRVING B. ELLIS
FIRST PLACE—OUR MONTHLY COMPETITION

SNOWSTORM COMING — DR. F. F. SORNBERGER
SECOND PLACE—OUR MONTHLY COMPETITION

Our Monthly Competition

It seems to be a foregone conclusion that those who judge pictures and award prizes are often subject to criticism and, sometimes, even wrath. Whether it be one of the leading salons, or a prize contest conducted by some newspaper, the poor judges, no matter what awards they make, seem to draw the fire of some of the contestants. Our reason for referring to this fact is due to the discussion which occurred in the selection of "The Little Thinker" for First Place. However, as the picture was studied and its originality of conception was considered, the jury finally decided in its favor. There is something compelling about it, and certainly there can be no question of the center of interest.

In the lower left corner the composition could very well do without part of the marble seat. The difference will be noted by covering up that part of the picture area. Even so, the figure of the boy dominates the scene and holds the attention. There is a small dark object lying at the boy's feet which he may or may not be looking at, and this is perhaps a somewhat discordant feature, as the beholder is led to wonder whether the boy is thinking out some problem or whether he is looking at the object on the ground trying to determine what it is. Some may feel that this is bringing criticism down to too fine a point; yet it is small things like this which the true pictorialist must consider in the making of his pictures. Altogether, Dr. Ellis has succeeded in making a picture which is different and which is well worth studying with a view to similar compositions in the future.

Data: The picture was made in the Greek Theater on the University of California campus, with a 9 x 12 cm. Voigtländer camera, 7-inch single meniscus fully corrected non-astigmatic lens, for soft-focus effects; stop F/5.6; 4 P.M., March, good daylight, 1/25-second exposure; Eastman filmpack, A.B.C. Pyro developer, projected on P.M.C.

Second Place was awarded to Dr. Sornberger's "Snowstorm Coming". Those of us who live in the country the year round can bear testimony that this scene is typical of a January day, especially toward sunset. The black fence posts which seem to be marching out of the picture at the right are perhaps a detriment to the composition, at least the two posts at the right of the tree. If these are covered up it will be noticed that the eye finds it easier to follow the curve of the road to the building which dominates the center of interest. The atmosphere of the scene is remarkably well rendered and one cannot fail to catch the sense of chill in the air and the quiet solitude of the late winter afternoon.

Data: The picture was made in January, hazy sunlight, Agfa matt back portrait film, Graf variable anastigmat, 10½-inch focus, F/4.5, 1/25-second; M.Q. developer; enlarged on Vitava Projection Matt No. 2.

THE FISH MARKET — WALDEMAR GLASS
THIRD PLACE—OUR MONTHLY COMPETITION

"The Fish Market", by Waldemar Glass, came to us from Denmark, and is a typical scene with which travelers are familiar. Mr. Glass has succeeded admirably in catching the principal actors, apparently unaware of the camera's presence. The purchaser is intent upon seeing to it that the fish-lady gives her the correct weight, and the woman at right is busy with her wares; and altogether we have an excellent outdoor genre. Perhaps the only discordant feature is the size and prominence of the bag which the customer is holding. It does attract and hold the attention to a certain degree; but then the scene would not be typical were the bag not in evidence. It is no small undertaking to photograph a scene such as this and include so little that is confusing.

Data: We quote from Mr. Glass's letter: " 'The Fish Market' is a very typical bit of folk life by the canal in Copenhagen. The same scene every day in the month, summer and winter, and with a little luck you may be able to catch some interesting scenes. It was made with the Leica camera, focused at four meters, and fixed from the hip. With this little camera you can pass about absolutely unnoticed and fire shot after shot. The data are as follows: Leica camera, Leitz Elmar 50 mm.; 1/40-second at full aperture, F/3.5, was given on Gevaert special Leica film at 3 P.M., weak sunlight, in March. Development in tank, Ernofin developer, 15 minutes at 65 degrees. Print on Royal white. A piece of tissue paper was used for diffusion. Amidol developer."

Photographers Can Win Honors

A CHANCE to win international honors for good photography will be given to professional photographers who submit prints for the International Photographic Salon to be held in connection with the Chicago Century of Progress Exposition in 1933. That sounds as though it were a long time off; but it really isn't, when it is remembered that this will be one of the greatest and most famous photographic exhibitions of all time, and that a year is none too long a time to prepare the finest possible prints.

Substantial awards will be given for the best portrait and commercial photographs submitted, and the jury of awards will be international in character, consisting of nonpartisan experts whose reputations are unquestioned.

The salon will have four divisions, one for pictorial photographs, one for portraits, one for commercial prints, and one for technical and scientific pictures. Only members of the Photographers' International Association of America will be privileged to submit prints for the portrait and commercial divisions of the International Photographic Salon. This is because the Photographers' International Association of America will be in authority in connection with this end of the exhibition.

Photographers desiring information are urged to write immediately to the Photographers' International Association of America at the Park Avenue Building, Detroit, Mich.

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THE COMPETITION SCOREBOARD

MAY 5, 1931

	Points
Edward L. Gockeler	30
Dr. Max Thorek	30
Edith H. Bethune	28
Sorab J. Kharegat	28
Dr. Irving B. Ellis	25
Roy and Brownie Adams	24
Paul Bras	24
J. Daniels	24
R. W. Dawson	24
Carl Demaree	24
Harry B. Fisher	24
Dr. Kelley Hale	24
Dr. K. Koike	24
Fred G. Korth	24
A. E. Moebs	24
George W. French	23
Charles Linke	23
Melvin Martinson	23
Dr. F. F. Sornberger	23
J. K. Hodges	22
Waldemar Glass	21
Alexander Clair	20
Zoltan Herczegh	20
Kusutora Matsuki	20
Allan F. Barney	18
E. J. G. Schermerhorn	18
Edward Bafford	17
Howard G. Dine	16
E. Graham	16
Frederick J. Hermann	16
Lionel Heymann	16
M. Itoh	16
Edouard C. Kopp	16
Alma R. Lavenson	16
C. P. Martin	16
William J. McCune	16
John C. Moddejonge	16
A. G. Niido	16
Corrado Sallustio	16
William O. Yates	14
A. W. Clark	13
Arthur M. Underwood	13
Carmine Albanese	12
Edward Andres	12
Axel Bahnsen	12
Dr. Glen H. Broyles	12
C. H. Clapper	12
Leland H. Croscup	12
U. Stephen Johnson	12
Walter Lipkau	12
Ladis A. Lisy	12
M. G. Monami	12
Dr. B. J. Ochsner	12
Thomas Scott	12
Harry W. Story	12
A. M. Tomlinson	12
J. C. Wedekind	12
Leonard Purin	11
Alexander Leventon	9
Edward Alenius	8
Roland F. Beers	8
James A. Bell	8
Fred Beidleman	8
Matthews S. Beros	8
John L. Brun	8
J. A. Couty	8
James M. Dille	8
Beatrice M. Dine	8
William J. Ennever	8
Edwin W. Gantt	8
A. F. Gatow, Jr.	8
Aileen L. Grapensteter	8
Earl Gray	8
M. Gurrie	8
Onn M. Liang	8
Wesley Lord	8
Anne H. Mellin	8
H. P. Morris	8
Henry Y. Okiyama	8
William M. Reyes	8
G. Hilliard Ross	8
C. A. Shaw	8
James Simpson	8
N. P. Smith	8
Charles L. Snyder	8
A. L. Tracy	8
Elmer P. Trevors	8
Martin Vos	8
T. R. Wiley	8
Hifumu Miyamoto	5
J. M. Banerjee	4
John Barry	4
Louis F. Brook	4
Don Burkhart	4
Harold Carey	4
Robert B. Clark	4
Edward C. Cohan	4
Gilbert Davies	4
Daniel DeVoe	4
William C. Duncan	4
Robert Ewoldt	4
J. H. Field	4
E. P. Fleming	4
George M. Gerhard	4
L. P. Gravel, Jr.	4
Samuel Grierson	4
Arthur W. Grumbine	4
William F. Happich	4
Emily Hayden	4
Gertrude Hennig	4
R. R. Jarrett	4
Xerxes Johnson	4
Theo Kay	4
Robert S. Knerr	4
Emil H. Kopp, Jr.	4
Arthur J. Lang	4
Dr. Davies Lazear	4
Joseph F. Leggett	4
Isidore Levitan	4
Arnold D. Lewis	4
Johannes Lowenstein	4
Erwin Marty	4
Delle Mason	4
Henry J. Matthies	4
W. Allen May	4
Edward McMahon	4
F. Meyer	4
William F. Murden	4
C. Nabuco	4
N. J. Nalawalla	4
Glendora Nichols	4
W. C. Niesen	4
N. Okada	4
Alfred Petrick	4
W. H. C. Pillsbury	4
J. B. Priddy	4
John S. Purdy	4
Hugo Raeth	4
Lucian B. Raynor	4
Gaston Remy	4
A. E. Rutenbeck	4
John O. Scudder	4
Virginia Semple	4
K. E. Skinner	4
Howard L. Snider	4
Leonard M. Snyder	4
Albert B. Street	4
Dorothy Thompson	4
Heinz Timm	4
L. H. Townsend	4
Yoneo Usami	4
Annie Watkins	4
R. Merrill Webster	4
Adeline Winter	4
Pauline E. Wolfe	4
George P. Wright	4
Gino Zenier	4

OUR ILLUSTRATIONS

A. H. BEARDSLEY

We believe that our readers will join us in feeling that our good friend, Alexander Leventon, A.R.P.S., has given us a literary and pictorial treat in this issue. There is probably no photographic organisation in the world which is of greater interest and value to amateur and professional photographers than the famous Royal Photographic Society of Great Britain. The article of itself holds our attention, but when to it is added some outstanding examples of pictorial work and also some glimpses of 35 Russell Square, we have a contribution which is certainly exceptional.

The front cover and frontispiece, "A Nocturne—Venice", was made by J. Dudley Johnston, Hon. F.R.P.S., president of the Royal Photographic Society, and is unquestionably an outstanding pictorial study, which has graced the walls of many a salon. In its reproduction there is bound to be a certain loss in tonal values, but, even so, the beholder cannot fail to appreciate the remarkable beauty of this study of Venice.

Mr. Leventon contributes two portraits, one of Mr. Johnston and the other of Mr. Blacklock, and we are glad to publish them, because we now have Mr. Leventon's own pictorial introduction to the president and the secretary respectively of the Royal Photographic Society. Mr. Leventon is well known for his pictorial work, and we can rely safely on his skill to convey to us his impression of the two men who are today doing so much for photography throughout the world. In fairness to Mr. Leventon, it should be said that he feels that he has not done justice to his two subjects and that he wishes that there might have been more time to obtain better results. In any event we are glad to have these two portraits as they are, and we believe that our readers will join us in being glad of this pictorial introduction to these outstanding photographic personalities.

We venture to say that not all of our readers have a very clear idea of how the rooms of the Royal Photographic Society really look. To be sure, now and again there have been some illustrations in the English photographic press, but for the most part readers in the United States do not have an idea of how things look at 35 Russell Square. Through the courtesy of Mr. Blacklock, the secretary, we are privileged to reproduce four views. We received a larger number, but lack of space prevented our using them.

"Snow in the City—Birmingham", by Mr. Johnston, is doubtless familar to many of our readers as an exhibition print, and also to not a few who have been to Birmingham and seen for themselves this composition. Evidently what impressed Mr. Johnston was the wintry and rather gloomy appearance of the subject, and with his pictorial skill he has brought it to others.

"Gondolas" is in a brighter key and was made in Venice. The sheen of sunlight on the water and the silhouette effect of the poles and gondolas has been portrayed admirably. This subject is in striking contrast to the others which accompany this article.

"Corfe Castle" is another study in a low key, but it seems to be in keeping with the subject and the events which occurred in this castle. It is situated on the Isle of Purbeck, Dorsetshire, England, and is said to be the scene of the murder of Edward the Martyr in 978, and in 1643 it was besieged by the Roundheads. Thus this old ruin has both historical and pictorial interest.

In the four subjects by Mr. Johnston, which accompany Mr. Leventon's article, we see revealed those pictorial qualities which have enabled the president of the Royal Photographic Society to accomplish so much not only in pictorial photography but in all branches. He knows and he understands the problem of the pictorialist as well as the professional photographer, and therein lies much of his success as president of the Royal Photographic Society.

We have all read advertisements of cruises of longer and shorter duration to various parts of the world, and we know that both still and motion-picture photography receives much attention not only by the passengers but by the promoters of these cruises. We are indebted to Mr. Barr for a lively description of a few hours which he spent in Vigo, Spain. We believe that he has given us a cross-section of what may happen when one of the large cruise ships arrives in port from various parts of the world.

"Making Movies in Vigo" shows that human nature is very much the same the world over, and that there is the ever-present small boy to watch the photographer.

Data: 4 x 5 Graflex camera, Kodak Anastigmat lens, 6½-inch focal length, stop F/8; 1 P.M., May, bright light, 1/65-second exposure; Eastman Kodak filmpack, Elon-Pyro developer, Velox printing paper.

In "Street-Scene in Vigo" we find that there is considerable posing of the subjects, but again that is a bit of human nature. Furthermore, the picture is of value in showing how the people of Vigo carry things about.

Data: 4 x 5 Graflex camera, Kodak Anastigmat lens, 6½-inch focal length; 11.30 A.M., May, bright light, 1/65-second exposure; Eastman Kodak filmpack, Elon-Pyro developer, Velox printing paper.

In "Zigzag Byways", although we have a bit too much foreground and some of the subjects are very much interested in the camera, nevertheless we have a very interesting view of what is doubtless a typical byway in Vigo, and not the least point of interest is the Bell Tower in the background.

Data: 4 x 5 Graflex camera, Kodak Anastigmat lens, 6½-inch focal length, stop F/6.3; 2 P.M., May, narrow street light, 1/35-second exposure; Eastman Kodak filmpack, Elon-Pyro developer, Velox printing paper.

"Wash Day in Vigo" suffers from many light and dark areas, which result in a rather spotty

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composition; but here we have a situation which tells a story, even though salon judges might condemn it. To be sure, the critic may say that a picture of such a subject can and should be made without violating the laws of pictorial composition. This may be true, and we believe in setting up high standards; but from our own experience in the field, we know that there are certain times and places when the photographer must make the exposure regardless of composition or fail to get any picture at all. We believe that Mr. Barr, as shown by the illustrations of his previous article on Morocco, has a trained eye for composition; but on the other hand, we realise that with only a comparatively short time ashore and with a desire to see as much as possible of Vigo, he obtained pictures which to him and to his friends will always bring back vividly those twelve hours in Old Spain.

Data: 4 x 5 Graflex camera, Kodak Anastigmat lens, 6½-inch focal length, stop F/12.5; 11 A.M., May, bright light, exposure 1/35-second; Eastman filmpack, Elon-Pyro developer, Velox printing paper.

Those who are familiar with the New England States, especially Maine, Vermont, and New Hampshire, know that in all three States there are picturesque mountain ranges and also certain distinctive mountains which stand by themselves. It would seem that these individual mountains might have at one time been part of the other ranges, but in the passage of centuries they were cut apart and left alone in their majesty. In New Hampshire we have the famous Mt. Chocorua region, which has no direct connection at all with the White Mountain ranges to the north. However, in Maine there is a similar mountain which has been famous for generations because of its comparative inaccessibility, beauty, and wildness. In its majestic isolation it suggests the last stand of the primeval wilderness against civilisation.

Mr. Palmer has given us an exceedingly practical, interesting, and inspiring account of Mt. Katahdin he writes from personal knowledge, and we feel his challenge to red-blooded men and women to follow the trail which he points out so clearly by means of his pen and camera.

"Sandy Stream Pond" gives an excellent idea of one of the approaches to Mt. Katahdin and the type of country at its base. Pictorially, the composition might be improved by a toning down of the logs in the foreground, which are a bit too high in key to allow the eye to pass over them into the picture beyond.

Data: 10 A.M., September, bright sun, stop F/11 at ½-second, with five times filter; Gevaert Ortho Anti-Halo plate.

Pictorially, "Pamola Brook" is perhaps the most appealing of all Mr. Palmer's pictures. There is a suggestion of sparkling sunshine, the loftiness of the mountain peak beyond, and the clouds, all of which lend themselves admirably to an appealing mountain-stream picture. Perhaps the immediate foreground is in a bit too high a key, but if it were toned down we wonder whether the picture would not lose much of its liveliness.

Data: 10 A.M., September, bright sun and shower clouds, F/16 at one second, with ten times filter; Gevaert film.

"South Basin" presents a convincing view of the cliffs above timber line, and is a splendid study in the matter of erosion and the formation of lakes and ponds at the base of mountains. From our own experience we know that pictures of this kind are difficult to obtain and that it seems to be impossible to reproduce such subjects as they appear to the eye at the time such exposures are made.

Data: 11 A.M., September, bright sun and high wind, F/5.6, 1/25-second, Gevaert Sensima film.

"Ascent" gives the reader an idea of the ground to be covered as one climbs Mt. Katahdin above timber line. It is apparently rough going and requires slow and steady climbing. The blocks of stone in the foreground might have been toned down a bit, but, on the other hand, they serve to impress upon the reader the character of the ground; and, if they were eliminated entirely, much of the value would be lost.

Data: 2 P.M., October, bright sun; F/11, one second, 10 times filter, Gevaert film.

"Knife Edge" gives one a convincing idea of the formation of Katahdin, and here we see the effects of time and weather. One also realises the height of Katahdin and its savagery. It does not take much imagination to picture the condition which might arise in a howling gale with driving sleet and snow.

Data: 4 P.M., September, bright sun; F/11, one second, 10 times filter on Gevaert Sensima film.

In contrast with "Knife Edge", the view of "Katahdin Summit" appears more inviting. However, as one looks upward and studies the picture, one cannot fail to realise the distances and heights involved. We believe that Mr. Palmer has succeeded in giving a very graphic description of this famous mountain in Maine, and we hope that a large number of our readers will find it possible to make the ascent to see for themselves the beauty and the grandeur of Mt. Katahdin.

Data: 8 A.M., September; F/11, at 3 seconds, with 7 times filter and Zeiss Distar lens; bright sun; Gevaert Ortho Anti-Halo plate.

The three illustrations accompanying the article by Mr. Andersson are included not for their pictorial value but to emphasise the point which he brings out in his article. Those of our readers who are making pictures for sale to newspapers and magazines will do well to bear in mind Mr. Andersson's experience in making pictures suited to newspaper requirements.

Mr. Racine, it will be recalled, was the author of several interesting articles which have appeared in PHOTO-ERA MAGAZINE, and now we have one which is different from any of the others. Although it may seem that many of us will never have the opportunity to go to that part of the United States described by Mr. Racine, yet modern means of transportation make the world very small; and who knows but some day we may find ourselves in the picturesque part of the country which he describes!

"Seal Rock" is rather a striking picture and doubtless presents a glimpse of the unusual coastal formations which Mr. Racine found on his trip. It will be noticed that he has placed the rock a bit to one side of the center and that the horizon line is not equidistant from the top and bottom.

The view on board the purse-seiner fishing boat is doubtless a typical scene, and it has the merit of apparently catching the crew unaware of the

(*Continued on page 51*)

THE EDITOR'S CORNER

Dr. E. P. Wightman, F.R.P.S., Visits Wolfeboro

Owing to pressure on our space in the June number, we very much regretted being unable to record in that issue the visit of Dr. E. P. Wightman, F.R.P.S., to Wolfeboro. As our readers know, Dr. Wightman is a member of the Kodak Research Laboratory staff of the Eastman Kodak Company, and is a pictorialist in his own right, and also an exceptionally fine judge of pictorial photographs. It so happened that the Editor was asked to be chairman of the Jury of Selection for the recent First New Hampshire Salon of Photography held in Concord, N.H. As chairman, the Editor invited Dr. Wightman to be a member of the Jury of Selection and at the same time spend a week-end in Wolfeboro. Everyone, including the weather, tried to make Dr. Wightman's first visit to New Hampshire pleasant and thoroughly enjoyable. We believe that, all working together, we succeeded, and that Dr. Wightman returned to Rochester, N.Y., with a clearer idea of the reason why New Hampshire in general and Wolfeboro in particular is the home of Photo-Era Magazine. Alexander Leventon, A.R.P.S., and Dr. Wightman, F.R.P.S., are now in a position to speak of Wolfeboro from personal experience.

Interesting Note from Mr. Street

Albert B. Street, who made the striking marine picture which adorned the cover of our May issue, has had a rather varied experience photographically, and we believe that it is always interesting to know something about the maker of a picture. In a recent letter Mr. Street mentions a number of things, and among others we believe that the following is of particular interest. We quote from his letter:

"Back in the winter of 1916–17, while at Dartmouth College, I entered a picture of a ski jumper and won a cup which some girl now has. Until this last summer I have never entered a competition again, or sent any prints to anyone. As I look back oyer the years between, much water has passed over the dam. At that time I was president of the Dartmouth Camera Club, which I organised in my sophomore year. I left in the spring of 1917 and served the 4th French Army on the Chemin des Dames until I entered the Air Service of the United States Army. I have recollections of teaching several men the beginnings of photography while at Dartmouth, and the work of one of them, namely, Kenneth Smith, has appeared in your magazine. After leaving the French Army, I entered the School of Aërial Photography at Cornell University, but I had brought home with me an excellent record of Army Transport work behind the 4th Army. These I took with an Ansco 2¼ x 3¼, developed the films in my truck, from time to time, and brought them through a very strict censorship in my money belt, as flat cut films unnoticed among the few franc notes I carried. Few, I said, as we received cinq sous par jour. At Cornell I became an instructor, and had the famous Captain Albert W. Stevens in my class. Much of him I saw later in Germany after the Armistice, where I was Commanding Officer of the 18th Photo Section. And that is that. This picture you have just printed takes me back to the time before that I had a cover on your magazine, and I am sure you will pardon my reminiscing."

Clifton Adams in Wolfeboro

Readers of the *National Geographic Magazine*, published in Washington, D.C., have long been familiar with the beautiful monochrome and natural-color photographs which Mr. Clifton Adams has made in all parts of the United States and in several countries of Europe. It has been our pleasure and privilege to have Mr. Adams with us for several week-ends. During that time we began to realise what it means "to do a State" for the *Geographic*. In addition to being an expert photographer, one must be a diplomat, student of human nature, and have the ability to select with accuracy the subjects which will reveal the agricultural, scenic, historic, industrial, recreational, and cultural opportunities of the State or country to the reader. Plans have to be made, routes laid out, arrangements completed, and then begins the day-by-day travel up and down and across the State by car, railroad, airplane, or boat. Mr. Adams's welcome visit to Wolfeboro, and to New Hampshire in general, was due to the preparation of an article on New Hampshire by Senator George H. Moses which, we believe, is scheduled for the August number of the *National Geographic Magazine*.

The Editor Off to Military Duty

For the third consecutive year, the War Department has seen fit to order the Editor to Fort McKinley, Portland, Maine, for active duty as Photographic Officer in connection with the Citizens' Military Training Camp activities. He reports for duty on July 18 and will return to his desk on July 31. As in the past, the Editor asks the co-operation of his readers with regard to correspondence, which will receive his attention as soon as he returns. Although the Editor welcomes a change from the editorial routine, he knows from many years' experience that being Photographic Officer at an Army Post means hard, exacting work from early morning until long after taps at night. Yet each year he has gained valuable photographic experience, which has proved to be very much worth while. Perhaps best of all, he comes in contact with many splendid men in all walks of life, and he thoroughly enjoys working with the fine, upstanding boys who attend these camps.

XUM

THE MONTH IN APPLIED PHOTOGRAPHY

C. B. NEBLETTE, F.R.P.S.
Division of Photography, A.M., College of Texas

DEAR MR. BEARDSLEY:

It is with deep regret that I feel compelled to ask you to allow me to relinquish charge of the department "The Month in Applied Photography", which I have conducted in PHOTO-ERA MAGAZINE for several years past. I have severed my relations with the A. and M. College of Texas, effective June 1, and have accepted a position with the Eastman Kodak Company at Rochester, and I fear that the duties of my new position will not afford me the opportunity of carrying on the department as it should be conducted.

My connection with PHOTO-ERA MAGAZINE has been a most pleasurable one and, though I feel compelled to give up the department, I trust to be able to contribute to its columns from time to time as opportunity offers.

And to you, personally, may I express the gratitude which I feel for your practical and helpful assistance and for the many kind expressions at various times of the value of my work? I trust that you will find another willing and able to take up the department where I leave it and make it of far greater value to the readers of PHOTO-ERA MAGAZINE than I have been able to do.

With the best of wishes, always, I remain

Sincerely yours,

C. B. NEBLETTE.

[It is with sincere regret that we release Mr. Neblette from the responsibilities of this department. Yet, we are very glad that he is going up the ladder of photographic success. He has our best wishes.—EDITOR.]

Stellar Motions Solved by Spectrum Photography

IN 1842, Christian Doppler, Professor of Mathematics at Prague University, showed that the precise color of a luminous body, like the exact pitch of a sounding one, will be changed by the approach or recession of that body. In the case of sound, the shortening of the sound-waves with an approaching source results in an increase in pitch; with light, the shortening of the wave-length leads to a shift in the spectrum lines toward the blue and violet. With sound, the change of pitch may be produced at relatively low velocities, and the effect can be observed by listening closely to the whistle of a fast-moving locomotive not too far away. The velocity of light, however, is so much greater than that of sound that the effect is observable only with stellar objects. A good many of these are moving directly toward the earth, and a great many more directly away from it, while the solar system itself is moving at the rate of about two miles per second in the direction of a cluster of stars in Hercules. When we obtain a photograph of the spectrum of a star which is moving to, or from, the earth, a measurement of the lines of its spectrum will show these to be displaced toward the shorter wave-lengths if the star is moving toward us, or toward the longer-wave-lengths if it is moving away from us. From the amount by which the lines are displaced from their normal position, the rate at which the star is moving may be calculated.

There are a great many stars of this type, and "motion in line of sight" investigations feature quite prominently in the observing program of a number of observatories. For instance, in 1928 the Lick Observatory published a huge catalog of such stars, embracing the results of over twenty years of investigation.

Probably the most fruitful application of spectrum photography, in combination with Doppler's principle in recent years, however, has been in determining the motions of the spiral nebulæ. These vast pinwheels lie far beyond the limits of our own galaxy of stars—far beyond that collection of stars which we see when we look up at the night sky, and beyond those stars which the astronomer photographs through his giant telescopes. Astronomy has now, after several years of discussion, finally accepted them as other galaxies, other families of stars like those which cluster around our own Milky Way. Although they contain hundreds of thousands, possibly millions of glowing suns, to us they are, because of their almost incomprehensible distances, simply vast pinwheels of luminous gas. From a position on one of them the earth, and even the sun, would be wholly invisible, and all the stars which we see when we look up at the sky would form only a cluster somewhat like the lights of a distant village seen from a mountain many miles away. These "island universes", as they have been called, lie so far beyond the range of our instruments and methods of observing that the only available means of studying their motion is from the spectrum. The more distant ones are very faint objects—just at the limit of the telescope—and, quite naturally it is possible to obtain a photograph of their spectrum only imperfectly and with very long exposures; but it can be done and has been done, and from such photographs—often the results of exposures of fifty to sixty hours— astronomy has learned many interesting things about these so-called "island universes."

The remarkable thing which these spectrum photographs show is that practically all of these distant bodies are flying away from us—some slow, some fast—those with the highest speeds being, in general, the most distant. It seems as if they are all as a class eager to put as much distance between them and the earth as possible. Some of them attain remarkable speeds; one photographed by Humason at Mt. Wilson with the 100-inch reflector and forty-five hours' exposure was flying away from us at a speed of more than 2,400 miles *per second,* or approximately five thousand times the speed of a bullet from a powerful rifle. Late last year, using a new high-speed spectrograph employing a type of lens new to astronomical spectrography, Humason

photographed the spectrum of a faint nebula which calculations show to be moving still faster, or nearly 8,000 miles per second. The new lens, a creation of Dr. W. B. Rayton of the Scientific Staff of the Bausch & Lomb Optical Company, has, in photographic terminology, an F/ value of 0.6 as compared with the F/2 of the highest speed lens in use previously. It has been possible with the new lens to photograph in a single night the spectra of remote nebulæ which previously could only be secured with forty or fifty hours' exposure, or with equal exposures to push out still further toward the more distant objects of this class. The new lens represents a decided instrumental advance, and when the 200-inch reflector of the California Institute of Technology becomes available for use with it, the vastly increased facilities should enable us to add greatly to our knowledge of the spiral nebulæ.

The rotation of the sun can be measured by the application of the same principle, and the results of such measurements are much more accurate than those obtained from sun-spots; for these do not stay fixed, and consequently the time required for a large sun-spot to pass around the disk is not a true indication of the speed of rotation. The spectrum obtained from the western edge of the disk, however, shows the displacement characteristic of approach, and that from the eastern edge the displacement characteristic of recession, thus enabling the rate of rotation to be calculated exactly. It is interesting to note that the spectrograph shows that the period of rotation is slower toward the poles than in the center; in other words, the sun does not rotate uniformly like a solid body but more like the vast globe of gas that it is.

The period required for the rotation of the planets may be obtained from their spectrum also. Within the last few months, Dr. J. H. Moore of the Lick Observatory has announced the period of rotation of Neptune, the result of a large number of calculations from spectrum photographs. Neptune is the most distant of the planets, with the exception of the newly-discovered Pluto. The period of rotation is found to be about sixteen hours, with the possibility of an error of something less than an hour either way. Neptune thus rotates faster than the earth, despite its much larger size, and like the earth and all the other planets, except Uranius, from west to east.

The way in which the spectrum is used to determine the size of a star is an interesting story, also, but one which does not come under that phase of the subject included in this note.

Long-Range Aërial Photography

Attempts to photograph the Statue of Liberty and Manhattan's skyline at night from an airplane at long range, similar to efforts enemy aviators might make preliminary to bombardment of the city, will be a feature of the Army Air Corps maneuvers at New York May 21–29, according to an announcement by Brigadier-General Benjamin D. Foulois, who will command the vast aërial armada of 672 airplanes.

Captain Albert W. Stevens, of the Army Air Corps, has been selected to make the experiment. The famous long-distance photographer, flying in special photographic plane equipped for high-altitude and long-distance work, also will make a series of daylight pictures of New York at distances from fifty to one hundred and fifty miles. Special light-filters, which it is hoped will penetrate the haze prevalent along the Eastern seacoast, are to be used. The photographs will be made at 20,000 feet altitude, requiring photographer and pilot to use oxygen.

Three-billion candlepower flashlight bombs, the detonations of which are so severe that their use over populated areas will not be attempted during the maneuvers, because of possibility of damage to window glass, will be employed by Captain Stevens in the night-photography tests.

The world's first photographic laboratory on wings will make its début during the Air Corps maneuvers, appearing in its initial test over Chicago May 20. This plane, a specially designed photographic ship of the cabin type, contains complete apparatus for making, developing, and printing pictures while in full flight. Special parachute tubes, recently developed, will be used to drop the finished pictures to the ground.

Two sinks are built in the laboratory and receive their water supply from the tank in the main cabin through a pipe which runs along the outside of the plane, thus utilising the slipstream to cool the water used in developing the films and plates and printing the photographs. Another novel apparatus is a device for quick drying of plates, films, and pictures.

If weather permits, attempts will be made over Chicago to complete in the air a mosaic covering 25 square miles of the heart of the city. From a height of 15,000 feet, about 50 films will be required for the work. These photographs, with allowance for overlap, will form a mosaic 24 by 24 inches. Each exposure from 15,000 feet will cover about 100,000 square feet. This will be the first experiment in making a mosaic in flight. When completed, it will be dropped to the ground.

This advancement, General Foulois' announcement said, is an extension of the quick-development apparatus for observation planes which develops photographs while in flight but does not print them. Lieut. George W. Goddard, who has pioneered extensively in aërial photography, will command the "flying laboratory."—*U. S. Army Information Service.*

[We expect to receive a report of the projects mentioned in this article and it will be interesting to see how successfully they were carried out.—Editor.]

The 16-Millimeter to Help Police

According to a news despatch in the *Boston Post,* there was a wedding at Montclair, N.J., not very long ago. During the ceremony and reception, an amateur movie photographer made pictures. At the same time, a thief made way with some jewels. A man was caught by the police and accused of the theft. As no one apparently saw the thief, identification was difficult. Then someone happened to remember that when the amateur's film was projected on the screen, a stranger was noticed moving among the guests. The pictures of the wedding will be shown at the trial of the accused to help prove the prisoner's guilt or innocence. And so the 16-millimeter will serve the ends of justice when other means might fail.

XUM

LONDON LETTER

CARINE AND WILL CADBY

The Royal Academy opened this spring with a sensation. Three pictures by the well-known English artist, Mr. R. G. Eves, were accepted, and not until they were hung did suspicions creep in that they were painted over a photographic basis. They were then removed from the walls and returned to the artist. On varnishing day, attention had been called to some remarkable line work in a building in one of the pictures; and closer inspection revealed that a sensitive photographic film had been laid over the canvas by a mechanical process, and oil paint superimposed. So lightly was the paint put on that the photograph was apparent when the picture was closely examined. The other two pictures were found to have been similarly treated.

One of the Academy rules states that pictures made on a photographic base are not admissible; and, so far, the authorities were within their rights in rejecting these paintings in which the photographic help employed must have been pretty evident. Mr. Richard Sickert, A.R.A., in a humorous letter to the *Times*, suggests that the only fault the artist had perpetrated is one of possible durability. With an interposed sensitive film between the canvas and the paint he asks if it is not possible that the film with the paint may peel off before the canvas decays. In fact, here is an article more perishable than we have a right to expect; and a commercial body like the Academy could not help to propagate an error of this kind!

An old painter friend tells us that it is quite an open secret that some artists have for years employed a photographic basis for their pictures; and really it seems difficult to know where to draw the line. Indeed, is there any good reason why they should not? Surely if they are thus enabled to get the effect desired, the end justifies the means. Only, to us innocent photographers, the fact that it is a common practice comes rather as a shock.

Mr. Eves's explanation is that he had developed serious neuritis in his arm, and the doctor had warned him that he must not overuse it. This made him adopt the method by which "a faint impression of the chosen view is photographed onto a sensitised canvas". Mr. Eves is a very well-known artist. He has painted several royal portraits, and among his best-known works are portraits of Thomas Hardy, Lord Darling, and the late Mr. H. B. Irving. In 1926 he was awarded the gold medal of the Société des Artistes Français for his work in the Paris Salon, and this is the highest honor in the gift of French art.

The R. I. B. A., which stands for the Royal Institute of British Architects, held an exhibition of Modern Transport last month in which, naturally, photography played an important part. The prints were well arranged in sections under headings, and the only fault we had to find was that the names of designers and photographers were not given. We admired the photographs of bridges most; they made us realise what a pictorial subject a bridge can be. We remember a reinforced concrete bridge on the Arosa Railway in Switzerland that, because of its delicate and beautiful outlines, attracted us to photograph it many times. In this exhibition there is a silver model of the Forth Bridge, which still holds its own for artistic value after forty years.

It appears that the best work comes from Germany—architecture, we mean, not photography—and one of us suggested that it was easier to design garages and petrol stations in a bigger country, where the towns and villages are more distinct, with wider spaces in between them; but the other remarked that it was probably a case of the Germans being cleverer.

Mr. H. G. Wells, who opened the exhibition, was well chosen, for he has vision to imagine the future and its necessities. He is the author of the remark that in front of every railway coach there stalks the ghost of a horse. And, indeed, it has been different for this conservative people to get away from the ghosts of horses on our roads.

While still on this subject, we might mention that the annual report of the Roads Improvement Association has been published recently, and we learn that British roads compare favorably with those on the Continent and are well surfaced and maintained; and they need be, for it seems there are more vehicles per mile of road in this country than in any other. We may as well mention that this eulogy of our roads is not intended as a veiled bit of propaganda for the "Come to Britain" movement which just now is fairly rampant; although we can with confidence recommend a summer trip here through country which is for many miles still unspoiled and unique in its charm and beauty, if the traveler can reconcile himself to take a certain percentage of the country hotels as a joke, sometimes a rather expensive one. But on the other hand, he will encounter inns that have a real English charm, both inside and out, with old-fashioned but good fare, where he can watch the plowman still homeward plodding his weary way and where the blazing hearth still burns.

Mr. F. S. Smythe—the leader of the Mount Kamet Expedition in the Himalayas—has reached Ranikhet with his advance party. An advance base camp is planned for Meade's Col, where a plentiful supply of food and equipment will be brought to allow of a lengthy stay. Here it is hoped that opportunities for photography will occur. A kinematograph film will be made, and it is anticipated that many other studies of the mountains will be obtained. Mr. Smythe, who has an eye for pictorial landscape, is not likely to let such unique studies evade him; and, if all goes well, we may look forward with confidence to seeing some of the finest mountain-pictures that have ever been obtained.

XUM

HERE, THERE AND EVERYWHERE

To ensure publication, announcements and reports should be sent in not later than the 5th of the preceding month.

Eighth International Congress of Photography

In a recent communication received from Dr. C. E. K. Mess of the Eastman Kodak Company, he says: "As National Secretary of the American Section of the Commission Permanente of the International Congress of Photography, I am enclosing a notice regarding the Congress to be held in Dresden, Germany, from August 3 to 8, inclusive, 1931. If anyone who anticipates presenting a paper before the Congress or attending any of its sessions will communicate with me, I shall be glad to forward his name to the Secretary of the Congress so that he will receive full details of the program."

The Eighth International Congress of Photography will be held at Dresden from August 3 to August 8, 1931, the last day in Berlin. It is arranged by an Organising Committee composed of members of the German Committee of the Commission Permanente des Congrès Internationaux de Photographie, of representatives of the Deutsche Gesellschaft für Photographische Forschung, and of the Deutsche Kinotechnische Gesellschaft.

Professor Einstein has consented to be Honorary Chairman and will open the Congress with a lecture. During the Congress, general lectures will be given on the progress made in various departments of Photography and Cinematography. There will, moreover, be special lectures in four sections.

It is proposed that on the last day of the Congress, that is on August 8, the members of the Congress shall have the opportunity of attending the making of a talking film at the Ufa-Studios at Neubabelsberg near Potsdam (Berlin). At the same time a concert in the former Royal Castle, visits to the principal sights of Dresden and the International Exhibition of Hygiene, 1931, besides excursions to the magnificent surroundings of the town, including the Saxon Switzerland, are some of the recreations that have been arranged for members of the Congress and their ladies.

The Winona School of Photography

When the plans were laid for the Commercial Course and the Portrait Course at the Photographers' International Association of America Summer School of Photography this year, it was decided that the courses would be given, even if there were only two students. The Photographers' International Association was determined that the Winona School should continue its service to the profession. Hence, the decision was made that neither course would be canceled, no matter what happened.

Today the officials of the International Association know that it was unnecessary to lay down this rule, as the registration for both the Portrait Course and the Commercial Course has never been heavier. More students are already enrolled than have ever been enrolled at this time in former years!

That means that photographers who are planning to go to Winona this summer would do well to hurry up with their applications. It is expected that the limited enrollment will be completed earlier than it ever has before. Don't put off your application until the last minute!

Students may attend the full Commercial Course for a tuition fee of $50; or *either* of the two weeks *separately* for a tuition fee of $30. New and interesting features have been added to the Commercial Course, however. Charles D. Kaufmann of Kaufmann & Fabry, Chicago, Ill., one of the largest and most successful commercial plants in the country, will lecture on "Building a Large Commercial Business" during the first week. This will be in conjunction with Mr. Roper's instruction which, he has announced, will deal with "lighting and composition, as well as color separation in monochrome; practical explanations and demonstrations of interior and exterior architectural work and modern and conventional illustrative work, etc."

Just as a reminder, it should be mentioned that the Portrait Course will be given for four weeks, from August 10 to September 4. Photographers can thus easily attend both the Portrait Course and the Commercial Course, since only a week will elapse between the two. The tuition for the Portrait Course is but $75, and it includes instruction in operating, developing, retouching, printing, oil coloring and sales methods, given by expert instructors, under the direction of Will H. Towles.

Time is growing short—registrations for enrollment are rolling in fast—better send in your application. Any photographer, whether or not he is a member of the Photographers' International Association of America, may attend the Winona School.

The registration fee for the Portrait Course is but $20. The registration fee for the Commercial Course is $15. Send in your application and registration fee now to the Photographers' International Association of America, Park Avenue Building, Detroit, Mich.

Dr. T. W. Kilmer—Portraitist

In the April, 1931, issue of *Studio Light*, published by the Eastman Kodak Company, we note with pleasure the recognition which our good friend Dr. T. W. Kilmer of New York, has received. Although he is, and always has been, an amateur, he has been doing portrait work of professional quality for many years. Many of Dr. Kilmer's outstanding portrait studies are reproduced for the benefit of professional photographers. We suggest that our readers obtain a copy of *Studio Light* and study the many striking portraits which Dr. Kilmer, the amateur, enjoys making as a hobby.

XUM

Marshall School of Photo-Coloring

Mr. Jackson, of John G. Marshall School, advises us that applications for the Marshall School are coming in very fast and the indications are that in many cities more applications will be received than can possibly be accepted. Our readers are therefore urged to act immediately if they do not want to be disappointed.

The Marshall School of Photo-Coloring is a traveling institution visiting leading cities throughout the country to teach all styles of oil-coloring, from light pastel tinting to solid painting with brushes. All photographic surfaces such as paper, positive celluloids, opals, opal miniatures, sensitised canvas, translites and murals will be considered. Subjects will include portraits of men, women, and children; scenics, commercials, and amateur enlargements.

Particular instruction is given in highlight and shadow colors and the imparting of distance or the third dimension through the proper selection of colors. Work will include stippled, oval, and craftex backgrounds, painting-in of light grounds over dark, and the illumination of deep shadows.

The school is for beginners or advanced workers—professionals and amateurs. Because of the limit placed on the number of applicants, etc., each student receives personal attention. Actual painting starts with the first lesson.

Two independent classes will be held at a centrally located hotel in each city; one in the afternoon from 2 to 5 o'clock, and the other in the evening from 7 to 10 o'clock. The course consists of five three-hour periods, from Monday through Friday. Tuition is $15.00

There is a public demand for well-colored photographs, but the lack of supply of good colorists has deterred many photographers from entering this profitable field. However, the Marshall School is doing much to train colorists so that they will qualify in the better studios.

The photographer is not limited to colored paper prints, and he will find specialties such as canvas prints, opals, Ivoras, Kotovas, translites, and miniatures have a ready sale if well colored. Additional profits will be secured from the sale of accessories such as high-grade frames, miniature cases, etc.

Pupils who have already attended are very enthusiastic; and, in fact, Mr. Marshall has received letters in which the writers say, "I would not take fifty dollars and be without what your course has given me", and "The first day was worth fifty dollars to me". We suggest that those who are interested write at once to John G. Marshall, 1752 Atlantic Avenue, Brooklyn, N.Y.

The school is now operating in two divisions, the Western and the Southern, and we give the itineraries below:

WESTERN DIVISION

Chicago, July 6–July 10, La Salle Hotel
Milwaukee, July 13–July 17, Schroeder Hotel
Minneapolis, July 20–July 24, Nicollet Hotel
Des Moines, July 27–July 31, Kirkwood Hotel
Omaha, Aug. 10–Aug. 14, Paxton Hotel
Denver, Aug. 17–Aug. 21, Cosmopolitan Hotel
Salt Lake City, Aug. 24–Aug. 28, Utah Hotel
Spokane, Aug. 31–Sept. 4, The Spokane Hotel
Seattle, *Sept. 8–Sept. 12, New Washington Hotel
Portland, Sept. 14–Sept. 18, Multnomah Hotel
San Francisco, Sept. 21–Sept. 25, St. Francis Hotel
Los Angeles, Sept. 21–Oct. 2, Alexandria Hotel
San Diego, Oct. 5–Oct. 9, U. S. Grant Hotel
San Antonio, Oct. 12–Oct. 16, Menger Hotel
Houston, Oct. 19–Oct. 23, Texas State Hotel
Dallas, Oct. 26–Oct. 30, Baker Hotel
Kansas City, Nov. 2–Nov. 6, Pickwick Hotel
St. Louis, Nov. 9–Nov. 13, Jefferson Hotel
*Tuesday to Saturday.

SOUTHERN DIVISION

Baltimore, *Sept. 8–Sept. 12, Lord Baltimore Hotel
Washington, Sept 14–Sept. 18, Raleigh Hotel
Richmond, Sept. 21–Sept. 25, John Marshall Hotel
Jacksonville, Sept. 28–Oct. 2, Windsor Hotel
Atlanta, Oct. 5–Oct. 9, Henry Grady Hotel
Birmingham, Oct. 12–Oct. 16, Tutwiler Hotel
New Orleans, Oct. 19–Oct. 23, Monteleone Hotel
Memphis, Oct. 26–Oct. 30, Peabody Hotel
Nashville, Nov. 2–Nov. 6, Andrew Jackson Hotel
Louisville, Nov. 9–Nov. 13, Kentucky Hotel
*Tuesday to Saturday.

Best Wishes to Mr. and Mrs. Barleben, Jr.

We are sure that our readers will join us in extending hearty good wishes to Mr. and Mrs. Karl A. Barleben, Jr., who were married May 28, 1931. Mr. Barleben is well known in the photographic field as a writer, as Editor of the Motion-Picture Department of *American Photography,* and as a member of the faculty of the New York Institute of Photography. We wish them both years of happiness, health, and prosperity.

French Photographic Salon

La Société Française de Photographie and the Photo-Club de Paris will hold their 26th International Salon of Photographic Art from October 3 to 18, 1931, in the Hotel de la Société Française de Photographie, 51, rue de Clichy, at Paris. The last day for receiving prints is September 1, 1931. We have a limited supply of entry-forms which we shall be glad to send on request.

All-Ohio Salon of Photography

The First All-Ohio Salon of Pictorial Photography is to be held at the Columbus Gallery of Fine Arts, East Broad Street, Columbus, Ohio, November 1 to 29 inclusive, under the sponsorship of the Camera Pictorialists of Columbus. After the month's showing in Columbus, the salon is to be sent to other camera clubs and art galleries throughout Ohio.

The All-Ohio, as the name implies, will be open to Ohio workers only, but the entry blank states that "diversity of subject and locale in pictures will be welcomed". Somewhat of an innovation in entry fees has been announced by the Camera Pictorialists for the show. The entry fee will be 25 cents per print, with a minimum entry of 50 cents and a maximum of six prints, or $1.50.

The Club has followed the recommendations of the A. C. C. A. mount standardisation committee, and the entry form states that mounts of 12 x 15, 14 x 18, 16 x 20 and 18 x 22 are recommended for the Salon. Entries will close October 10

"It is our hope by sponsoring an All-Ohio show that we can bring out some worthwhile talent in the State that has not been heard from in the bigger salons, and get together an attractive collection of prints. We have assurances of co-operation from all sides and we are confident of success," says Tom R Wiley, of the faculty of Denison University, Granville, Ohio, president of the Camera Pictorialists.

"We want the beginners, as well as the 'old hands', to submit prints, because we hope to develop some latent ability in the State."

Information and entry forms may be obtained by writing William C. Pryor, secretary of the Camera Pictorialists, 60 Latta Avenue, Columbus. Camera clubs and art galleries and schools interested in booking the salon after November likewise should write Mr. Pryor. The Salon Committee includes E. G. Royer, vice-president of the Camera Pictorialists; Mr. Pryor; and Leonard Eesley, treasurer.

Chicago Camera Club

The Chicago Camera Club has recently moved into its new quarters at 137 North Wabash Avenue, Chicago, Ill. The new quarters are ideal for a camera club, consisting of a large studio with every facility for modern lighting, and this same room also serves as an assembly hall for gatherings and an exhibition hall for prints. Approximately two hundred prints may be hung at one time under glass on the walls. There are five darkrooms, three of them equipped with enlarging cameras, 130 lockers for members, a comfortable lounge, a general workroom for mounting, and facilities for copying, retouching, bromoil work, etc. The Chicago Camera Club extends to members of other clubs a cordial invitation to visit their new quarters.

Suggestion for Use of New Photoflash Bulbs

Solder or otherwise fasten a metal post on the shutter, so that the movable metal cap comes in contact with it at a point where the shutter is wide open. Run a small copper wire from this contact post to the bulb on the stand. Then run another wire from the movable metal cap to a flashlight battery, two or three cells, which is located on the camera stand or tripod, or simply plug into light supply. Use pilot light and other outside lights necessary to focus and make ready. Now close the shutter. Everything ready, press the bulb on "bulb" exposure and the deed is done. Outside lights may be distributed so as to prevent heavy shadows. The quick bulb exposure prevents fogging the plate. By this method, results otherwise impossible are obtained. Plenty of light in the operating room not only makes the sitter feel more comfortable but allows the operator to watch closely and get the desired expression.

G. P. Evans.

Dealers Meet at New York Institute

Recently, members of the sales forces of the leading photographic firms of New York assembled in the studios of the New York Institute of Photography, at 10 West 33d Street, New York City. The evening was opened by an address by the Dean of the Institute, Herbert C. McKay, F.R.P.S., who delivered an address upon the subject of "Selling Amateur Ciné Equipment". In this address Mr. McKay presented the point of view of the customer, rather than that of the salesman. Judging from the response, the address was approved by all of those present.

After the address, a few moments were spent in informal discussion, and later all of the guests were taken upon a tour of inspection through the studios of the Institute.

Those present represented the Eastman Kodak Stores, Herbert & Huesgen, Burleigh Brooks, Willoughby's, Boozer & Co., and others.

It is hoped that this initial get-together may be the foundation of a series of evenings which will provide a place where the representatives of all dealers in New York may assemble for a combination professional and social period of mutual benefit.

Irish Salon of Photography

The Third Irish Salon of Photography will be held in the Mansion House, Dublin, during the month of October, 1931. The last day for receiving prints is September 30, 1931. Entry forms and further particulars may be obtained by addressing The Honorary Secretaries, Irish Salon of Photography, 18 Morehampton Road, Dublin.

Our Illustrations

(*Continued from page 44*)

photographer's presence. Here again, one finds a case of diagonal lines and highlights and shadows, but with little or no opportunity to do other than make the picture quickly, before the chance was lost.

Neah Bay presents a view of the town which Mr. Racine describes in detail and gives the reader a setting for the text.

In Part II, which will follow in the August issue, we shall have additional illustrations which will make clear the interesting and unusual character of this extreme northwestern point of the United States.

In June, 1927, we published a picture of the White Mountains as seen from Lake Winnepesaukee. This was made by personnel of the 8th Photo Section, U. S. Air Corps, stationed at Mitchell Field, Long Island. It was an official photograph of the Air Corps and was made with the regular aërial photographic equipment then in use. This consisted of a Fairchild Aërial Camera, probably a K-3, and Eastman Hypersensitised Panchromatic film. The publication of this picture aroused no little interest, not only because of its technical quality, but because many of our readers had very little idea of what was meant when the Winnepesaukee Lake region was mentioned. The view includes what is known as the Barber's Pole, Melvin Bay, and Green's Basin. In the background we have first the Ossipee

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Mountains, then the Sandwich Range, and finally in the dim distance Mt. Washington of the White Mountains is visible. Those who have traveled far and wide tell us that there are few more beautiful combinations of lake, island, and mountain scenery to be found anywhere in the world. It remained for this aërial photograph to bring home, even to the residents of this part of New Hampshire, the beauty and the grandeur of this region. We are reproducing this picture again through the courtesy of the Army Air Corps, who have very kindly co-operated in many ways to bring out the beauty of the Granite State from the air.

Photo-Era Trophy Cup Scores

On the 5th of this month the Photo-Era Trophy Cup Race will be decided and the cup will be awarded to the club having the largest number of points to its credit. During the years in which we have conducted this special contest there has been a great deal of interest shown in it and we have learned that a number of club members have taken a greater interest in club affairs as a result. This was the original purpose of the race. The determination of the Fort Dearborn Camera Club to get the lead and hold it is shown by the consistent winning of points for the past year. Other clubs have participated and are close to each other in a number of points; but they have not been able to bridge the gap between themselves and the Fort Dearborn Camera Club. In short we have a striking example of what consistent effort will accomplish.

Dr. F. F. Sornberger, not a member of a camera club, received First Place; Zoltan Herczegh of the Cleveland Photographic Society, Second Place; and E. J. G. Schermerhorn, not a club member, Third Place in the Monthly Competition ending June 5.

With regard to Honorable Mention awards, the Fort Dearborn Camera Club received four, Erie Camera Club two, Brooklyn Institute, Camera Pictorialists of Columbus and Orymca Camera Club one each.

According to our records, the standing of the clubs as of June 5 is as follows:

Fort Dearborn Camera Club	34½	points
Cleveland Photographic Society	6½	"
Erie Camera Club	5	"
Orymca Camera Club	4½	"
Brooklyn Institute	3½	"
Camera Pictorialists of Columbus	3	"
Photographic Club of Baltimore	2	"
Schenectady Camera Club	1	"
Toronto Camera Club	1	"
Photographic Society of Philadelphia	½	"

Solitary Self-Portraiture

A new device in artistic photographic portraiture which permits the subject to pose and make his or her own picture in quiet and contemplative solitude, with due regard for pet vanities and without the admonitions of a photographic assistant, was demonstrated recently in New York City to a group of invited guests by Luther J. Simjian, director of the photographic laboratory of the School of Medicine at Yale University.

Although the studio and apparatus embody new ideas in photography, Mr. Simjian says that the most important advance is in the psychology of photographic portrait-making. The interest which the subject displays in posing himself for front view or profiles induces the naturalness of expression that makes fine likenesses. In other words, no more watching for the "birdy". Mr. Simjian has spent years in developing his method and building several experimental machines; but there is nothing tricky or complicated about the new method, nor is it adaptable to "boardwalk" use.

By an ingenious arrangement of mirrors, the victim sees himself either in front view or profile, his image appearing in a mirror in the exact size in which his finished portrait will appear. The subject enters the studio alone, and remains alone. In a mirror he sees his portrait-size image. This reduction from life-size to actual portrait size is effected by a concave lens in front of the mirror. When the desired pose is ready, the sitter presses a button and the view is recorded by a hidden camera of conventional type. For profile views on either side, there is an ingenious mirror-arrangement by which the sitter can try all views without haste and finally record the desired profile.

During the various phases of development, Mr. Simjian has tried his successive machines in New Haven, and during the last year all the portraits for three Yale class books were self-made by the students.

Mr. Simjian is also the inventor, among other things, of the metallic screen for microscopic projection, new methods of imitating daylight in photography, the new quick-proof process, and new formulæ for developing and printing photographs.

To All Professional Photographers—Notice!

From August 3 to 7, inclusive, the O-M-I Photographers' Association will conduct at Cedar Point, Ohio, U. S. A., what will without a doubt be the greatest photographic convention ever held in the history of the profession. As a part of this great convention there will be a tremendous exhibit of photographs, and because the O-M-I Association is desirous that the work of photographers from all countries shall be on display, it is offering fifteen medals in the five portrait classifications and nineteen medals in the nineteen commercial classifications, all of them open to the world. Any professional photographer, in any country, may compete. All prints which are approved by the judges and hung in the exhibit will receive handsome gold seals, whether they are prize-winners or not. Inasmuch as the last date for receiving prints from abroad is July 15, there is ample time. Unfortunately, the rules and regulations are too long for publication; but any reader who is interested may receive complete information by writing to Charles Abel, A.R.P.S., Secretary, The O-M-I Photographers' Association, 520 Caxton Building, Cleveland, Ohio, U. S. A.

When love and skill work together, expect a masterpiece. John Ruskin.

WHAT'S NEW?

A department reserved exclusively for the announcement and description of new photographic goods and services.

The Miller Fold-O-Flector for the Mazda Photoflash Lamp

The Mazda Photoflash Lamp, the safe and sane substitute for the difficult and dangerous flashlight powder, is now well known. That little Mazda bulb, filled with aluminum foil, may be set off by any electric current or battery; and the hand battery, bulb, and single reflector cost less than a dollar.

But professional photographers and amateurs who are artists have desired a larger reflector with more Photoflash Lamps for groups and scenes that require a greater area of light and a brighter light for more detail.

The new Miller Fold-O-Flector is the answer to their prayers. It not only offers a nineteen-inch reflecting spread, but it may be folded into a neat package, eleven by two, easily carried on trips. It accommodates up to seven Mazda Photoflash Lamps, according to the number desired. And these lamps, fastened by clips around the edge, are all set off by contact with the central bulb. Three clips come with the outfit, and more may be purchased at a negligible price, the whole outfit being very inexpensive, despite its advantages.

For carrying or storage, the Miller Fold-O-Flector does just as its name implies—it folds up. The ten triangular planes of the reflector fold to a flat package, eleven by two by two. The battery, clips, and central disc are detachable and may be carried in the pocket. The reflector is light but firm, being made of light-brushed aluminum. The handle for the battery is of brass, nickel-plated.

This reflector can be mounted upon a tripod if desired. Tripods for the purpose are likewise light and firm and can also be folded into a small carrying case.

The Miller Fold-O-Flector, with its many Photoflash Lamps, all set off by the one electric button, a reflector which throws a wide and bright area of light, will be welcome to the professional or amateur photographer who takes his work seriously. With it, he can turn night into day, indoors into outdoors as far as light is concerned, and make pictures of rare beauty and fine detail. And his gratitude will go to the Miller Company, of Meriden, Conn., who invented the Miller Fold-O-Flector for the Mazda Photoflash Lamp.

Marguerite de L. Jenkins.

New Leica Developing Booklet

Our readers will recall an article written by Willard D. Morgan on the subject of the efficiency of the Leica Camera. It so happens that since writing this article Mr. Morgan has become actively interested in the Leica products and in fact conducts the work of the Leica Research Department. From his work in the field and his technical knowledge he has just written a booklet which is invaluable to all owners and prospective owners of the Leica Camera. The booklet takes up in detail the developing, printing, and enlarging of Leica negatives. Mr. Morgan believes in being specific and detailed in his instructions and the result is a booklet which is exceptionally valuable, not only to Leica owners, but to all who are interested in the technique of the small camera. Knowing Mr. Morgan and his thoroughness and skill we are especially pleased to recommend this new booklet to our readers, and we are sure that they will profit by reading it and carrying out the excellent instructions it contains. Copies may be obtained by writing to E. Leitz, Inc., 60 East 10th Street, New York City.

Durkopp Printing Machine

As we have pointed out from time to time during the past few months, new photographic equipment is making its appearance almost overnight. We no sooner call attention to one new product than another makes its appearance. The Medo Photo Supply, 323-325 West 37th Street, New York City, announces the new Durkopp Printing Machine. We regret that the descriptive matter of this new printer reached us too late for us to go into detail, but our readers are urged to write to the importers and obtain further details with regard to this new printer. It includes a number of radical improvements as well as original devices and merits the attention of all who are interested in efficiency in printing.

The Foth Derby Camera

In this issue will be found an announcement of the new Foth Derby Camera which includes a number of original features, not found in other equipments of the same type. It uses ordinary vest-pocket roll-film but makes two pictures on each frame, so that the capacity of the camera is sixteen pictures on the regular vest-pocket size film. It is equipped with a high speed F/3.5 anastigmat lens and its focal-plane shutter equipment is ample to meet all requirements. It is interesting to note the exceptionally fine equipments which are now obtainable at very moderate prices, and certainly it would seem that now is the time to purchase photographic equipment of all kinds. We suggest that descriptive matter of this new camera be obtained from the importer, Burleigh Brooks, 127 West 42nd Street, New York City.

Haloid Papers

Amateur and professional photographers are finding it of interest and practical help to use the coupons which are attached to the advertisements of the Haloid Company, Rochester, N.Y. This well-known firm is making several exceptionally inviting offers which permit tests of Haloid Papers to be made at a moderate price and at no risk to the purchaser. The coupon is worth clipping.

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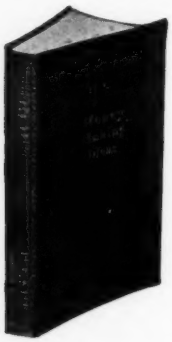
BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

MONEY-MAKING IDEAS FOR PORTRAIT STUDIOS, by Charles Abel, A.R.P.S. 400 pages. Price, cloth, $6.00. Cleveland: Charles Abel, Inc.

The title of this new book by Charles Abel, A.R.P.S., Editor of *Abel's Photographic Weekly* and *The Commercial Photographer,* reveals the contents and yet it does not tell all that may be found in this exceptionally interesting and practical book. We picked up our copy with a view to glancing through it preparatory to a more exhaustive study of its pages, and, before we knew it, we were reading page after page in utter disregard of other editorial work. In fact, we continued our reading steadily until we finished the book, and found that we should be late for our evening meal.

Mr. Abel does not claim that all the suggestions contained in his book originated with him, although we do know that many of them were based on his own experience. With rare discrimination he has selected from many sources those ideas



which have been worked out in practice and have been proved of financial benefit when applied at the right time and in the proper community. In general, we should say that the book is intended primarily for the photographer in the smaller communities of the country. It will be an inspiration and a practical guide to him. It will answer his questions of how and when to meet conditions and opportunities throughout the year. It will give him ideas which in all probability he would overlook. In short, even though we are not conducting a studio, we felt a tremendous urge to do so and to put into actual practice the ideas contained in this excellent volume. We believe that the experienced owner of a studio, as well as the beginner in the business, will derive equal benefit from its thorough study. Furthermore, we know that many amateur photographers will find in its pages splendid suggestions for their own work in new and varied lines. Although the book is written for the professional photographer and the owner of small studios, we believe that Mr. Abel has written an inspirational book which can be read with profit and pleasure by anyone interested in photography.

Altogether, it has been some time since we have taken more pleasure in reviewing a new photographic book, and we heartily recommend it to our readers.

PHOTOGRAPHIC AMUSEMENTS, by Frank R. Fraprie and Walter E. Woodbury. 10th Edition revised and enlarged. 271 Pages; 180 illustrations. Price, cloth, $3.00. Boston: American Photographic Publishing Co., Inc.

This interesting volume is an enlarged and revised edition of the original work by Mr. Woodbury, which has passed through a number of editions owing to its great popularity. It is not intended to be a photographic textbook. It assumes that the reader can make a good negative and a good print. The book is filled with suggestions for the grotesque, the humorous, and the scientific. Some of these suggestions are purely amusing, and others are of a scientific nature which will be of great interest and value to experimenters. The volume is an excellent answer to the question what to do with one's camera when one has apparently exhausted the usual subjects. The text matter and many of the illustrations have been brought up-to-date, taking into consideration modern photographic equipment. However, the reader, no matter what type of camera he may own, will find that he can enjoy working out the suggestions contained in this book. Those who are not already familiar with "Photographic Amusements" will find it well worth their time and the price of the book to have their photographic appetites whetted for further photographic enjoyment.

KAMERA-KURZWEIL (Camera Pastimes). Interesting Possibilities of Photography. 6th Edition of the Book of Photographic Amusements. By A. Parzer-Nühlbacher. Thoroughly revised and enlarged by Guido Seeber. 374 Pages. 227 Illustrations. Union Deutsche Verlagsgesellschaft. Berlin, 1930. Cloth, 15 marks.

So many new and interesting experiments have been added in the present revised edition of this well-known work that it is difficult to relate it to its former editions. Some of the subjects treated in the eighty subdivisions are: Photography Without Light or Camera, Pinholes, Luminous Plates, Pyrotechnic Displays, Rainbows, Fog, Rain and Snow, Moonlight, Magic Prisms, Soap Bubbles, Ice Crystals, Shadowgraphs, Infra-Red, Ultra-Violet, Invisible Writing, Enlarging Without a Lens. The descriptions, illustrations, and formulas are dispensed more generously than is usually the case in books of this type. After reading this compilation, we realise what charming roads of interest and entertainment are awaiting those fortunate beings who have time to experiment with the unusual phases of photography. The work can be recommended without reservation.

PETER SCHERRER.

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THE AMATEUR KINEMATOGRAPHER

HERBERT C. McKAY, F.R.P.S.

The Camera in the Air

THE world has taken to wings and takes its camera with it. But of all the films exposed in the plane, so few are worth while that many flying amateurs are substituting field glasses for cameras. There is no reason for this, because there are many amateurs who are making excellent pictures from the air. In order to help you in making your films good, suppose we relate a little story, but one which is true in every detail.

Your editor has a very good friend whom he started upon a movie career less than two years ago. In fact, less than one year ago he had exposed less than three hundred feet of film. Then he proposed to make a trip around the world, and started intensive training in movie-making. Incidentally, you have heard of this man before. He promised you a story of his world trip, but as yet it has not been written. It is enough to say that from this trip he brought back 1800 feet of exposed sixteen-millimeter negative from which prints were made to build up a good 1200-foot film.

This spring, this man became interested in flying and purchased a beautiful sedan type plane. Then came the inevitable result, and a tour of the United States was planned. As was to be expected, the camera was to figure prominently in this trip. The itinerary was to include St. Louis; Amarillo, Tex.; Yuma, Ariz.; San Diego; Los Angeles; San Francisco; Portland; and the northern route back to New York. This friend, whom we shall call Smith—because that is *not* his name—came to request advice regarding his outfit.

"Well, Smith, just what do you want to do?"

"Make films from the air, films of everything interesting."

"You will encounter haze, storms, clouds, low ceiling, smoke from cities, dull light and brilliant. Are you prepared to cope with all those conditions?"

"I have my Cinophot."

"Good! But there are other factors. No matter what the visual conditions, you will encounter more or less haze and you will have a subject which at best is devoid of contrast."

"All right; what will I do to overcome this?"

"Well—let's see! In the first place, you will use nothing but panchromatic film."

"Check!"

"Then you will invariably use a filter. I would suggest a medium yellow and a heavy one. I should not advise an orange or red filter, as the over-correction would not look right upon the screen, and you would not often have sufficient light to use it."

"All right. Get them for me, will you?"

"Yes. Let's see! You are using a Hugo Meyer lens, your F/1.9, you know. So we will get Meyer filters. Let's see whether a 4x and a 10x will be about right. Open up one stop on the 4x for pan film and open two and a half for the 10x. For ortho film, if you use it later, take the factors at face value. You should find that about right."

Smith was taking notes as I talked, and nodded at this point.

"Don't be afraid to open up the lens if necessary, and be sure that it is focused at infinity all the time, for your subject is far away. Your lens will give you a perfectly defined image at full aperture."

"Oh, yes! Keep the lens-hood in place, and do not try to shoot into the sun. I believe that is about all. Just keep your head."

I bade Smith good-by and forgot it all; but in less than a month he dropped in upon me with a reel can under his arm.

"Here, Mac, look at these!"

The projector was set up and then there followed twelve minutes of real enjoyment—no pun intended, please!—for here was four hundred feet of excellent film, more than three hundred and fifty of which had been shot from the air. Here were airdromes upon the prairie, cities with bright streets and smoke drifting from factories, mountain ranges blazing in the sun, a "roof" of clouds with peaks thrusting up through them, there in the distance an approaching storm, the fairy beauty of Santa Monica with the curving coastline of the Pacific, and even a good shot over rain-drenched Portland. Three hundred and fifty feet of excellent film, perfectly exposed, perfectly defined, and most of it made with a heavy, 10x filter!

There is little difficulty in making shots from the air when we remember the peculiar conditions encountered and the peculiar aspect of the earth as seen from the air. Keep trying, use "pan" film, a heavy filter and—common sense.

Soft Focus

THE amateur has followed the professional cameraman into most of his technical nooks and corners; but for some reason he has avoided one of the most promising departments of the professional, which is the use of the soft-focus lens.

There seems to be some confusion regarding the exact nature of soft focus. It is true that diffusion with screens and the out-of-focus effects do not reproduce particularly well upon the screen; but there are few effects which are more beautiful and certainly none which are easier to obtain.

The first and only requirement is a lens made for soft-focus effects. The writer has used the Wollensak Verito lens for some time and has found it consistently satisfactory. As is the case of every true soft-focus lens, the image produced is a combination of a sharp and a diffused image. Such an image is the only one which is truly satisfactory in motion-picture work as it is the only one which will stand the immense enlargement incident to projection without losing the characteristic beauty of the true soft image.

Soft-focus images are characterized by a clearly-defined image but one in which no harsh lines

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appear and which has a soft, glowing beauty which, when properly made, appears to be self-luminous rather than the projected image of a silver mask.

Judgment must be exercised in the choice of subject. Any subject which depends for its value upon a mass of fine detail is not at all suitable, nor is one in which important masses are extremely small. Perhaps the most favorable type of picture for soft focus is the close-up.

Soft focus in close-ups has double value. Not only does it make the image more beautiful in itself, but it accomplishes that one photographic process which has been barred from motion-pictures—an equivalent of retouching.

The elimination of fine detail, that is of microscopic detail is a factor not to be lightly overlooked, for it means the elimination of freckles and all of those tiny defects which make the motion-picture close-up so unsatisfactory in amateur films.

In addition to this, it adds a life of brilliancy to the large image of the close-up which is so often inclined to be flat and lacking in light-interest.

Scenic shots, particularly those made in a mountainous or wooded country are extremely well rendered by the soft-focus lens, and for those shots made in the early and late hours of the day, shots in which atmosphere is desired and which are primarily pictorial no other lens can approach it.

The lens is used just like any regular motion-picture lens as it is provided with a focusing mount of the usual type. The lens is provided with a deep lens-hood which is essential for the best results, so this hood should never be removed from the lens when it is in use.

As far as the lighting is concerned, all that is necessary is to avoid anything which will give specular reflection or any other condition which would ordinarily tend toward halation, as such effects will be emphasised. Nor should strong contrasts be attempted, as the diffusion of the softness will resemble halation.

On the contrary, a subject which is lighted softly, with neither harsh highlights nor black shadows will be rendered with an exquisite beauty which is never seen in any other type of picture.

In focusing the lens, it is sometimes difficult to determine the exact end point. For this reason it is advisable to stop the lens down to F/8 or F/11, and then open the lens. If there is a flood of light upon the subject, make the exposure at a little larger than F/8, and with softer light the lens may be opened. This sounds like the usual diaphragm-control. Fortunately, the diffusion control keeps step with the exposure. A large stop with hard light gives too much diffusion and the low diffusion of a small stop with low light gives a picture greatly similar to that made with the regular lens. I have found it best to underexpose slightly with this lens, using perhaps one-half stop smaller with it than with the full anastigmat.

Remember that if, for any reason you want more or less diffusion than is called for by the exposure stop, you have a certain film-latitude which enables you to overexpose or underexpose a stop or two. If working at the seashore or in some similar location where an extremely small stop is demanded, use a heavy filter over the lens in order to make possible the use of the large stop. The soft-focus lens loses its diffusion at a stop of about F/8, and at F/11 it is extremely difficult to distinguish the soft-focus from the usual image. From F/8 to F/3.5 the diffusion increases rapidly with each larger stop.

Watch the films in the theaters and notice the frequency with which soft-focus is used. Not necessarily the extremely "mushy" picture which was once popular, but the true soft-focus in which the picture is marked by a beautiful roundness and softness without losing the slightest of its clarity. Then, if you have the desire to introduce the same kind of shots into your own films, prepare to investigate a brand-new and fascinating field—soft-focus motion photography.

B. & H. Manufacturing Precision

How Bell & Howell manufacturing precision is maintained by close factory inspection is interestingly told in a profusely illustrated six-page article in a recent issue of *The Iron Age*, a leading magazine of the metal-working industry. The outstanding results obtained by the Bell & Howell inspection system are obviously the reason for such extensive space being devoted to its description by this widely-known publication.

Those who have visited the Bell & Howell factory state that the inspection program in operation there is designed to control every possible source of inaccuracy in manufacture. Certain parts of Filmo equipment, we are informed, are held to a tolerance of one ten-thousandth of an inch, and lynxed-eyed inspectors see that no lapses in tolerance are permitted in these or other instances, every manufacturing operation being given the acid test of efficient inspection right up to and including the final touch that results in the finished product.

A Filmo 70 camera, for example, is inspected over 2,500 times during its manufacture. The company is required, states *The Iron Age* article, "by the very nature of its product to work to extreme accuracy not alone in the manufacture of single parts but to hold to fractional thousandths of an inch on small parts that are on a quantity production basis. A background of this character quite readily brings to light special equipment, inspection-methods, and the organisation by mears of which desired accuracy is attained.

"Also a point not to be overlooked is the deliberate purpose of making the workers, inspectors, and shop supervisors accuracy-minded. This can be accomplished only by educational methods, stimulation of individual and departmental pride in the company and its product, carefully prepared plans, frequent and thorough inspections, and the selection and use of first-class equipment for manufacturing and for inspecting purposes."

Intensive efforts are made, according to the article, "to bring the individual worker to recognise the importance of accuracy. He has been taught to appreciate his importance in a plant-organisation which turns out a quality product."

DEAR EDITOR: "Please tell me; what is a divorce court?"

Answer: "A double exposure."

Thru the Darkroom Door.

YOSEMITE FALLS
YOSEMITE NATIONAL PARK
CHARLES C. BLANCHARD